The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees

Vol. LX, No. 8 Chicago, Illinois February 22, 1913

THE INTERPRETATION OF THE RESULTS OF THE WASSERMANN TEST *

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The complement-fixation reaction for the diagnosis of syphilis, discovered by Wassermann, Neisser and Bruck, and coincidently by Detre, is, aside from the demonstration of *Spirochaeta pallida,* now generally accepted as the most valuable aid we have in the diagnosis of the disease and in the control of treatment. I have been impressed, however, with the evident misconceptions of many practitioners regarding the nature of the reaction, the percentage of positive results that may be expected in the various stages of syphilis and the exact significance of a positive or negative result. Many patients have been told on the strength of a single negative reaction that they were free from syphilis, while the diagnosis of syphilis has repeatedly been made on the presence of a plus-minus or plus reaction in the absence of a history of infection and of any symptom of the disease.

Such interpretations of the reaction are entirely unwarranted and have led to the infection of innocent individuals, on the one hand, and to great mental and physical suffering by those unjustly stigmatized as affected with this dreaded disease, on the other.

THE NATURE OF THE REACTION

The most recent investigations appear to prove that the Wassermann reaction is not necessarily a true antigen-antibody reaction but may be produced by certain lipotropic substances formed in the tissues of syphilitics during the progress of the disease. The researches of Landsteiner, Müller and Pötzl[1] and of Porges and Meier[2] first demonstrated that alcoholic extracts of normal as well as syphilitic tissues served as antigens, while those of Noguchi and Bronfenbrenner[3] proved that at least part of the active principles in the antigens used in the test are present in the lipoidal substances found in extracts from both syphilitic and non-syphilitic tissues of man and other animals. Noguchi,[4] however, has shown that with an antigen prepared from pure cultures of *Spirochaeta pallida* it is possible to secure complement fixation in certain syphilitic infections, especially in latent and tertiary cases, thus indicating the presence of true antibodies in the serum. That this reaction is in the nature of a group reaction is rendered probable by the work of Nichols and myself,[5] for we have found that alcoholic extracts of not only *Spirochaeta pallida* give complement fixation in certain cases of syphilis, but that the same results are often obtained with alcoholic extracts of *Spirochaeta pertenuis, Spirochaeta microdentia* and *Spirochaeta refringens,* while negative results have been uniformly obtained with antigens made from pure cultures of organisms like the *Bacillus typhosus* and *Spirillum cholerae.*

These researches would appear to indicate that when an antigen prepared from a syphilitic fetal liver, which is rich in spirochetes, is used, the Wassermann reaction partakes of the character of both a true antigen-antibody reaction and a reaction between the lipoids contained in the antigenic extract and the lipotropic substances present in the serum tested, while, with an antigen prepared from normal tissues, the reaction is between the lipoids and lipotropic substances only.

While numerous investigators have denied that better results are obtained with an antigen prepared from syphilitic tissues than with one made from normal tissue, Wassermann and his followers still maintain that the syphilitic liver extract gives superior results, and in my own experience I agree with this statement, believing that the explanation lies in the dual nature of the reaction when tissues rich in spirochetes are used in the preparation of the antigen. Indeed, in discussing this question, Citron[6] says that the reactions obtained with syphilitic and normal tissue antigens can hardly be compared and that "in important differential diagnosis, even this kind of extract (alcoholic extract of normal tissues) should not be considered as specific as luetic antigen."

In a recent paper, Keidel and Hurwitz[7] give the results of an investigation of the comparative value of normal and syphilitic extracts used as antigen by means of the Wassermann and epiphanin tests and conclude that comparative titrations show the superiority of the syphilitic extracts. They say that "syphilitic extracts contain, besides the non-specific complement-fixing substance or substances present in both non-syphilitic and syphilitic organs, certain other components which depend for their existence on the syphilitic poison in the specific tissue. These may be the *Spirochaeta pallida,* its virus, its decomposition products, or the metabolic products to which it may give rise in the tissue."

I think, therefore, that it may be stated that the Wassermann reaction, when an extract of syphilitic tissue is used as antigen, is often of a dual character, consisting of a true antigen-antibody reaction and a non-specific reaction between lipoids present in the antigenic extract and lipotropic substances present in the serum tested. This dual action occurs only in some cases, for it has been shown that complement-fixation with pure cultures of *Spirochaeta pallida* occurs only in a certain proportion of cases giving a positive Wassermann test, and for this reason antigens prepared from such cultures are not as reliable as extracts of either syphilitic or normal tissues.

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* From the Bacteriologic Laboratories of the Army Medical School.

[1] Landsteiner, Müller and Pötzl: Zur Frage der Komplementbindungsreaction bei Syphilis, Wien. klin. Wchnschr., 1907, xx, 1565.

[2] Porges and Meier: Rolle der Lipoide bei der Wassermann'schen Syphilisreaktion, Berl. klin. Wchnschr., 1908, xlv, 731.

[3] Noguchi and Bronfenbrenner: Biochemical Studies on So-Called Syphilis Antigen, Jour. Exper. Med., 1911, xiii, 69.

[4] Noguchi, H.: Experimental Research in Syphilis, The Journal A. M. A., April 20, 1912, p. 1163.

[5] Craig, C. F., and Nichols, H. J.: A Study of Complement Fixation in Syphilis with Spirochete Culture Antigens, Jour. Exper. Med., 1912, xvi, 336.

[6] Citron, J.: Immunity, 1912, Philadelphia, p. 169.

[7] Keidel and Hurwitz: A Comparison of Normal and Syphilitic Extracts by Means of the Wassermann and Epiphanin Reactions, The Journal A. M. A., Oct. 5, 1912, p. 1257.

MATERIAL AND TECHNIC

In the laboratories of the Army Medical School, the Wassermann reaction has been in use since Nov. 1, 1909, during which time over 10,000 tests have been made. It has been the practice in the Army to control the treatment of syphilis by this reaction, so that many repetitions of the test have been made on a large number of individuals. In this way our technic has been continually checked up and a correct interpretation of the reaction in the various stages of syphilis has been rendered possible.

The method employed in this laboratory is really a combination of the Wassermann and Noguchi methods, following Wassermann in the employment of an extract of syphilitic fetal liver as antigen and in inactivating the serum to be tested, and Noguchi in using a human hemolytic system, the amboceptor consisting of the serum of rabbits immunized to human erythrocytes.

In reporting the tests, I use the terms: double-plus (++), indicating absolute inhibition of hemolysis; plus (+), indicating at least 50 per cent. of inhibition; plus-minus (+ —), indicating any degree of inhibition below 50 per cent.; and negative (—), indicating complete hemolysis.

GENERAL RESULTS

The conclusions regarding the interpretation of the Wassermann test given in this paper are derived from the study of 10,000 tests made in the Army Laboratory in Washington. The total number of individuals tested has been 5,216, while 4,784 reexaminations were made, generally as a control of treatment. Of the 5,216 individuals tested, 2,905 gave a positive reaction and 2,306 a negative reaction. Of the total number, 3,516 were patients in whom the clinical diagnosis was syphilis or in which there was a clear history of infection (this includes latent cases); 1,544 were patients in whom the clinical symptoms or diagnosis were of some other disease; while 156 were normal individuals in whom the test was made during research work.

Table 1 gives the results obtained in the cases diagnosed as syphilis or in cases in which the symptoms were suggestive of that disease. As seventy-three individuals were tested in the primary stage at a period too early for the reaction to have appeared (one or two days after the appearance of the chancre) and as sixty-two of the secondary cases giving a negative result had been treated sufficiently for the reaction to have disappeared, it is only just that these cases should be deducted from the table if one desires a true statement of the results actually obtained with the test, and this has been done.

TABLE 1.—RESULT OF WASSERMANN TEST IN 3,381 CASES OF SYPHILIS

Stage of Disease	Number Cases	Number Positive	Number Negative	Per Cent. Positive
Primary	654	580	74	89.4
Secondary	1,434	1,372	62	95.6
Tertiary	465	404	61	86.8
Latent	778	509	269	65.4
Congenital	28	25	3	89.2
Parasyphilitic	22	15	7	68.1
Totals.........	3,381	2,905	481	85.8

INTERPRETATION OF THE RESULTS IN THE PRIMARY STAGE OF SYPHILIS

All cases have been considered as primary that have presented the initial lesion or that were tested before the development of secondary symptoms. Of 654 primary cases, 580, or 89.4 per cent., gave a positive result. It may therefore be stated that about 10 per cent. of primary cases do not give a positive Wassermann test. Table 2 gives the character of the reaction in the primary stage in 483 cases arranged according to the number of weeks since the appearance of the initial lesion.

In this table all plus-minus reactions are recorded as negative, although the plus-minus reaction in the primary stage, especially during the first and second week, is of some value, providing a suspicious lesion is present. It is best, however, to consider such reactions as negative and have the serum examined again within a week or two.

I believe that a plus reaction in the primary stage of syphilis should be interpreted as a positive reaction, as I have never observed a case in which a plus reaction afterward became negative, unless as the result of treatment. For this reason, a plus reaction during the primary stage of syphilis is, to my mind, as significant as a double-plus reaction, providing there is a clear history of infection or an initial lesion is present. In the absence of both, a plus reaction should not be considered as diagnostic and further tests should be made.

It is unnecessary to discuss the significance of a double-plus reaction, as it always means syphilis in this as in any other stage of the disease, if the few conditions in which such a reaction is rarely given can be excluded. It will be observed, from a study of Table 2, that a double-plus reaction occurred in 13.8 per cent. of the cases during the first week after the appearance of the initial lesion; in 22.1 per cent. during the second week; in 41.4 per cent. during the third week; in 53 per cent. during the fourth week, and in 61.5 per cent. during the fifth week. It is interesting to note that a double-plus reaction occurred in practically 14 per cent of the cases as early as the first week after the appearance of the chancre.

The significance of a negative reaction during the primary stage of syphilis is practically *nil*. As shown by the total results, 10 per cent. of the cases fail to give a positive reaction during this stage of the disease, and in Table 2 practically 20 per cent. failed to give a reaction. When it is remembered that the 483 cases analyzed in this table include only those that afterward developed positive reactions, the conclusion is justified that in practically 20 per cent. of primary cases the Wassermann test may be expected to give a negative reaction. It follows, therefore, that even repeated negative reactions during this stage of the disease do not prove the absence of syphilis.

INTERPRETATION OF THE RESULTS IN THE SECONDARY STAGE OF SYPHILIS

Of 1,434 cases presenting active secondary symptoms of syphilis, 1,372, or 95.6 per cent., gave a positive reaction. In 4.4 per cent. the reaction was negative and in many of these cases the test was repeated several times. Therefore, it must be admitted that some patients presenting active symptoms of the secondary stage of syphilis do not develop a positive Wassermann reaction, and in my experience practically 5 per cent. of the secondary cases have given a negative result. This small percentage proves the great value of the test in the diagnosis of syphilis.

A double-plus reaction, in patients presenting suspicious symptoms of this stage of the disease, is conclusive evidence of the presence of syphilis under the limitations already mentioned in discussing the interpretation of the test during the primary stage.

A plus reaction, while not of as much value in this stage as in the primary, is practically conclusive evidence when symptoms are present or when there is a clear history of a primary lesion, and other conditions giving a reaction can be eliminated. At least 80 per cent. of secondary cases give a double-plus reaction, but a plus reaction is frequently observed, even in patients presenting very active secondary symptoms, so that one must consider all the features in the case very carefully before ignoring the presence of a plus reaction.

A plus-minus reaction in patients suspected of being in the secondary stage of syphilis is valueless from a diagnostic standpoint, and one who makes a diagnosis of syphilis on the strength of such a reaction does a great injustice to the patient. In cases in which treatment has been administered, such a reaction may be the result, but before making a diagnosis of syphilis treatment should be omitted, the test should be repeated after an interval of two or three months, and if the reaction is still a plus-minus, the diagnosis of syphilis should not be made, in the absence of other symptoms.

A negative reaction in the presence of supposed symptoms of secondary syphilis is of greater value than at any other time, but even here it should be remembered that practically 5 per cent. of secondary cases of the disease give a negative reaction, and that this reaction may persist for weeks and months. A negative reaction persisting over several months and in the absence of further symptoms of the disease may be regarded as conclusive, while in cases giving an indefinite or no history of infection, and no symptoms, a negative reaction repeated at an interval of two or three months may also be regarded as proving the absence of syphilis, provided treatment has not been administered.

TABLE 2.—RESULTS OF THE WASSERMANN TEST IN 483 CASES OF PRIMARY SYPHILIS, ARRANGED ACCORDING TO THE WEEKS ELAPSING AFTER THE APPEARANCE OF THE INITIAL LESION

Week After Appearance of Chancre	Total Number Examined	Negative, Number	Reactions, Per Cent.	Plus, Number	Reactions, Per Cent.	Double Plus, Number	Reactions, Per Cent.	Total Number	Positives, Per Cent.
First	65	47	72.3	9	13.8	9	13.8	18	27.6
Second ..	122	60	49.1	35	28.6	27	22.1	62	50.8
Third ...	123	44	35.6	28	23.7	51	41.4	79	64.2
Fourth ..	134	36	26.8	27	20.1	71	53.0	98	73.1
Fifth	39	8	20.5	7	17.9	24	61.5	31	79.4

INTERPRETATION OF THE RESULTS IN THE TERTIARY STAGE OF SYPHILIS

Of 465 patients presenting symptoms of the tertiary stage of syphilis, 404, or 86.8 per cent., gave a positive reaction. The percentage of positive results obtained in this stage of syphilis by different observers has varied greatly, owing largely to the effect of previous treatment on the reaction. Many of our patients had received mercurial treatment but generally in an intermittent manner, and it is probable that such treatment did not interfere greatly with the reaction.

Our results show that practically 15 per cent. of cases of tertiary syphilis which presented symptoms at the time of making the test gave a negative reaction, a fact of great importance in interpreting the result of the Wassermann test during this stage of the disease.

A double-plus reaction in patients suspected of tertiary syphilis is diagnostic of the disease under the limitations already noted.

A plus reaction occurs in a larger proportion of tertiary than secondary cases, and therefore is of greater diagnostic value, and I believe that in patients presenting suspicious tertiary lesions it should have the same value as a double-plus reaction, with the same limitations.

A plus-minus reaction, unless permanent or treatment has been administered, is of no diagnostic value in patients presenting symptoms suggesting the tertiary stage of syphilis. Repeated examinations should always be made in such cases before the condition is considered syphilitic, but in the presence of a clear history and symptoms, a plus-minus reaction should not lead one to consider the case as non-syphilitic.

A negative reaction in patients suspected of tertiary syphilis is of value in excluding the disease only when it persists for several months and typical symptoms have not developed. Our results show that practically 15 per cent. of cases of tertiary syphilis, presenting symptoms at the time of making the test, gave a negative reaction. In the absence of typical symptoms and a history of infection, a negative reaction may be interpreted as indicating the absence of syphilis, provided no treatment has been administered.

INTERPRETATION OF THE RESULTS IN LATENT SYPHILIS

In this class were included all those cases in which no active symptoms of the disease were present at the time of making the test. Almost all of the patients had received more or less specific treatment and the majority were tested in order to determine whether the disease had been cured. Of this class of cases 778 were tested, with a positive result in 509, or 65.4 per cent. In most of the patients the only evidence of the disease was glandular enlargement and in many even this symptom was absent. The great value of the Wassermann test in the diagnosis of syphilis is well shown in the high percentage of positive results in this class of cases.

A double-plus reaction is not obtained so often in latent cases as in the active stages of syphilis, and when obtained is diagnostic under the limitations already mentioned.

A plus reaction in the absence of other symptoms, providing that there is a clear history of infection, I believe should be given the same interpretation as a double-plus reaction, especially when specific treatment has been administered for some time. In such instances a plus reaction is diagnostic of syphilis.

A plus-minus reaction in presumably latent cases, when there is a clear history of infection, especially if treatment has been administered, should arouse the suspicion that syphilis is present, but the test should be repeated two or three times before a diagnosis of syphilis is made. In these cases a plus-minus reaction generally means insufficient treatment, as most patients applying for a Wassermann test in the absence of symptoms have been treated for the disease at some period previously and are anxious to ascertain whether they are cured.

A negative reaction in cases suspected of being in the latent stage of syphilis has no value unless it remains consistently negative over a period of at least a year. Our statistics show that 35 per cent. of latent cases gave a negative result, and quite a large percentage of these cases afterward developed symptoms and the Wassermann became positive.

INTERPRETATION OF THE RESULTS IN CONGENITAL SYPHILIS AND PARASYPHILITIC DISEASES

Our experience has not been sufficient in this class of cases to permit me to make any definite statements, but it is generally admitted that in congenital syphilis about 90 per cent. of the cases give a double-plus reaction; in paresis nearly 100 per cent., and in tabes between 50 and 60 per cent.

INTERPRETATION OF THE RESULTS OF THE TEST AFTER TREATMENT

In the vast majority of the 4,784 reexaminations the test was made for the purpose of controlling treatment with salvarsan, mercurials or both. Our results have demonstrated the great value of the Wassermann reaction as an index of the efficiency of treatment and we have thus been able to trace the gradual disappearance of the reaction in treated cases and its reappearance in those instances in which further treatment was required. The use of the reaction in this manner has made possible the intelligent administration of both salvarsan and mercury and every patient suffering from syphilis should have the treatment controlled by Wassermann tests made at intervals of at least two months. Only in this way can justice be done the patient and the specific treatment of syphilis be conducted in an adequate and scientific manner. The occurrence of a double-plus or plus reaction following treatment should always be interpreted as meaning that more treatment is necessary. Granted that as most observers believe, the presence of a positive Wassermann reaction means the presence of living spirochetes, it is evident that when such a result is obtained the patient cannot be considered as cured, even though symptoms may have been absent for months or even years.

A plus-minus reaction after treatment, provided it is obtained on repeated examinations, should also be considered as an indication for more treatment, but when such a reaction is obtained treatment should not be given until the test has been repeated, unless symptoms are present.

A negative reaction after treatment is of no value as an evidence of cure unless it remains negative for at least a year and no symptoms have developed meanwhile. The limit of a year is arbitrary and founded on our experience in controlling the treatment in hundreds of cases of syphilis. We have observed but one relapse in a patient whose Wassermann reaction has remained negative for a year after the cessation of treatment. A luetin test should also be made, even though the Wassermann test is negative.

THE SPECIFICITY OF THE WASSERMANN TEST

Of the total 5,216 individuals tested in this laboratory, 1,544 were patients suffering from diseases other than syphilis, of whom ten, or 0.6 per cent., gave a positive result. Three of the positive cases were in patients suffering from tertian malarial fever, the blood being tested during the febrile stage; in all, the blood became negative after the subsidence of the fever. In one case the diagnosis was undetermined fever and the blood became negative during convalescence. The exact nature of the disease could not be determined in this instance. In three cases the diagnosis was tuberculosis; the patients recovered under specific treatment. In two of the cases a history of syphilitic infection was afterward obtained, while in the other such an infection could not be excluded. In three cases diagnosed as pityriasis rosea a plus reaction was obtained, which disappeared on the subsidence of the eruption. Other cases of this disease have been tested with a negative result, but the occurrence of the reaction in this disease should be noted.

It is well known that in some cases of leprosy, and in many of yaws, the Wassermann test gives a positive reaction, but these conditions can be easily eliminated clinically and for this reason do not render the test less valuable under ordinary conditions. A weak positive reaction has also been obtained in such diseases as carcinoma, sepsis and scarlet fever, but the number of cases reported is small; the reactions obtained were weak, and in most a latent luetic infection could not be excluded. I believe that a large percentage of positive results in non-syphilitic cases is certain proof of imperfect technic in the application of the Wassermann test or a wrong interpretation of the results obtained. These reports must be viewed with suspicion.

If the diseases in which the Wassermann complement-fixation test has occasionally been found positive can be excluded, a double-plus reaction is sufficient to enable one to diagnose the presence of syphilis. Under such conditions, I consider the test absolutely specific, whether symptoms of the disease are present or not, and whether there is or is not a history of infection.

Under the same conditions, and with a history of infection or the presence of clinical symptoms, a plus reaction should also be interpreted as diagnostic of syphilis.

A diagnosis of syphilis should never be made on the presence of a plus-minus reaction alone. Many normal individuals will give a plus-minus reaction at times and therefore such a reaction cannot be considered as having any more value than a negative reaction, in the absence of a history or symptoms.

A single negative reaction is of no value in excluding syphilis. Only when such a reaction is obtained on repeated examinations for at least a year after cessation of treatment can it be considered as evidence of the absence of the disease, and a luetin test should be made to corroborate the Wassermann result.

In the interpretation of a negative result the history of the patient, the presence of symptoms and the amount of previous specific treatment must all be carefully considered.

In conclusion, I desire to call attention to certain factors which influence the result of the Wassermann test, and which are of considerable practical importance.

INFLUENCE OF THE INGESTION OF ALCOHOL ON THE TEST

Nichols and myself[8] have shown that the ingestion of considerable amounts of alcohol may render a strongly positive serum negative, if the test be made within twenty-four hours after the alcohol has been administered, and in some cases the serum will give a negative reaction for as long as three days after the administration of the drug. The administration of from 90 c.c. to 120 c.c. of whisky to nine individuals having a double-plus Wassermann reaction resulted in the reaction becoming negative in all of them within twenty-four hours after the alcohol was taken. In one case the reaction did not become positive again until the end of three days, while in the others the serum became positive within thirty-six hours.

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[8] Craig, C. F., and Nichols, H. J.: The Effect of the Ingestion of Alcohol on the Result of the Complement-Fixation Test in Syphilis, The Journal A. M. A., Aug. 5, 1911, p. 474.

These observations show that no dependence can be placed on a negative Wassermann reaction in individuals who have ingested considerable amounts of alcohol within twenty-four hours of the making of the test, and therefore a careful inquiry should always be made regarding the recent use of alcohol before collecting blood for the complement-fixation reaction.

INFLUENCE OF BACTERIA ON THE TEST

The serum for the Wassermann test should be collected under aseptic precautions, especially if it is to be kept for any length of time before it is tested, as I[9] have been able to show that certain strains of staphylococci and streptococci, when growing in normal serum, are capable of producing substances in the serum which may give rise to a positive result with the complement-fixation test for syphilis. These non-specific results do not occur in normal serums which are sterile, even though the serums be kept at room temperature for as long a period as a month, and while such false reactions are probably very rare in actual practice, the fact that they can occur as the result of bacterial activity is of enough importance to justify the use of aseptic methods in the collection of blood for the Wassermann test. This reaction is quantitative as well as qualitative, and it is only by the most careful attention to every technical detail that reliable results can be obtained.

For this reason the test should be made only in properly equipped laboratories by those who have received special instruction and who devote a large part of their time to this work. Under such conditions results will be satisfactory, but the interpretation of the test must always remain with the clinician. The laboratory report deals only with the result of the test, and it rests with the clinician to correlate this result with the clinical condition present.

VACCINATION AND LOCAL ANAPHYLAXIS

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During the recent small-pox epidemic in Western Pennsylvania, and particularly in Pittsburgh, which through the effective administration of the Department of Health was quickly circumscribed and subdued, the physicians of our vicinity had an unusual opportunity to observe large numbers of vaccinations. It has been estimated that in Pittsburgh about one-third of the population was vaccinated.

The ordinary vaccination with cow-pox creates little interest in the mind of the practicing physician, and the results are not carefully observed. There is one phase of this topic, however, which is very interesting, and while mention of it is made in the recesses of the English literature, I think that it is not presuming too much to say that it is not generally recognized, and that its explanation is almost unknown. A patient is vaccinated and after a slight redness or perhaps a small raised papule lasting one to three days the entire effect of the inoculation seems to have subsided, and the case is considered as one which did not take. On revaccination, say about two weeks later, we do get a "take," and we are surprised to find that the previous vaccination, apparently unsuccessful, now becomes active and goes through the same evolution as the revaccination. The lesion of the first vaccination usually does not develop as fully in any of its stages as that of the revaccination.

This observation was made long ago; we have no positive data on the frequency with which it occurs. Even if we could collect data on the frequency of its occurrence we should have to eliminate many other sources of error, such as technic of vaccination, dose and potency of virus, condition of skin, etc. After eliminating all external sources of error, we might then consider sensitiveness of the organism to the virus. Ordinarily this irregularity does not occur frequently enough in the experience of the average practitioner to make its impression on him, and if it has happened in his work he passed it by as an accident. On questioning physicians, I find, however, that the good observer can usually recall one or two such instances, and he admits that he thought it noteworthy at the time but had almost forgotten it since. In the general run of work, including the above-named sources of error, the frequency with which it occurs may be judged by the accompanying table. These figures include my own observations and those of my colleagues with whom I have discussed this subject.

	Ages	Vaccinated	Revaccinated	Local Anaphylaxis
Inst. C. H. . .	5-15	40	14	2 children
Inst. N. H. . .	10-20	70	10	2 children.
Dr. D.	Adults	125	?	1 adult.
Dr. F. B. . . .	All	75	?	1 adult.
Dr. R. J.	All	172	5	1 child.
Dr. F. S.	All	125	25	0
Dr. W. W. . . .	All	200	50	7 or 8
Dr. S. L.	All	500	?	3
Dr. H. J.	All	65	15	1 child.

Judging by this table, its occurrence is not very exceptional. It seems more frequent in the cases not previously vaccinated.

CASES EXEMPLIFYING FORMS OF THIS REACTION

CASE 1.—D. P. Primary vaccination on left arm; slight local reaction, at ten days disappearance of all traces. Revaccination on tenth day on same arm, 3 inches from previous site; reaction marked. On fourteenth day, area of the first vaccination inflamed. Course of lesion about ten days, simultaneous with revaccination. Resulting scab smaller and fell off earlier.

CASE 2.—Reported to me by Dr. R. R. Jones. Primary vaccination no "take;" complete healing. Successful revaccination fourteen days later. Three days later reaction of primary vaccination, running its course in eighteen days. Course of revaccination more protracted, the scab still adhering at the end of thirty days.

A very important feature in this case is that the first vaccination was on the right leg and the revaccination on the left leg. The possibility of auto-inoculation is eliminated.

CASE 3.—Dr. S. First vaccination twenty years ago "took." Second vaccination nine years ago did not take. Third vaccination was made two months ago. Three days after inoculation there were evidences of a "take." Several days later the old scar of the vaccination of twenty years ago became red, inflamed, slightly elevated, and very itchy. This continued for about five days and subsided. The vaccination ran a usual course.

CASE 4.—Dr. B. Vaccinated in childhood successfully. Revaccinated at age of 20 successfully. Revaccinated again at age of 22 unsuccessfully. Shortly afterward (exact time not known) exposed to small-pox. Last vaccination scar became extremely sensitive and itchy for several days.

NATURE AND CAUSE OF VACCINATIONS

Extensive and painstaking studies of vaccination had been made by Bohn. Later, in 1903, von Pirquet pre-

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[9] Craig, C. F.: The Relation of Certain Bacteria to Non-Specific Reactions with the Complement-Fixation Test for Lues, Jour. Exper. Med., 1911, xiii, 521.

The opening of the thorax showed that the outlines made by percussion were exact. There was an enormous thymus located between the heart and the thyroid gland. The thymus occupied the entire upper part of the mediastinal space (Fig. 3). It was more developed toward the right side and pressed the heart downward and the pulmonary vein, aorta and superior vena cava strongly backward against the spinal column. The division of the thymus into its two lobes was not apparent; it formed a uniform mass having a transverse diameter of 5 cm., and measured 4.5 cm. in length and 2.5 cm. in thickness. After dissection, the windpipe was found compressed and flattened in the thoracic portion between the brachiocephalic trunk and the left common carotid. Section of the heart showed a patent foramen ovale with a semilunar membrane closing, in greater part, this foramen.

Death in this case was certainly due to an abnormal enlargement of the thymus. The partly patent foramen ovale does not explain this sudden death, because the child was all right before and between the dyspneic spells; the color of the baby was absolutely normal and there was no difficulty in breathing.

THYMUS HYPERPLASIA IN CHILDREN

In children what might be termed a latent thymus hyperplasia may exist for a longer or shorter period of time. Such cases do not come, as a rule, under surgical jurisdiction. They are seen by the family physician, who finds the child in poor general condition and suffering from some vague respiratory symptoms. The physician may or may not connect these symptoms with thymus hyperplasia; but even if he makes a correct diagnosis, the parents will never consider an operation until more decided dyspneic symptoms are present. Sometimes sudden death is the first symptom which reveals this latent form of thymus hyperplasia, and in the majority of cases this condition is revealed only at the autopsy. To-day, as we know a little more of this pathologic condition, I believe that this fulminating form of death without any prodromic symptoms is rare. As a rule the learned physician will find in the history of the case a few symptoms which will reveal the presence of the hyperplastic thymus. As in Bright's disease, there are in thymus hyperplasia some "minor symptoms" which will lead the physician to a correct diagnosis, and it is because such symptoms have not been carefully observed that the diagnosis of thymus hyperplasia is not made; as a result, the child is found dead in his bed. The autopsy shows a large thymus compressing the windpipe.

Certain cases of asphyxia of new-born babies are explained only by thymus hyperplasia. The child is born apparently dead and it often takes quite a long time to reanimate it; its breathing is difficult and loud. It remains cyanotic and in many instances dies after a few minutes or hours. The autopsy shows only some asphyxial lesions and an enormous thymus displacing and compressing the windpipe—no cardiac malformations, no cerebral hemorrhage, possibly only a few subpleural and subpericardiac hemorrhages.

The most striking symptom of thymus hyperplasia is dyspnea. This may be characterized by only a labored respiration or by the most intense choking spell. Between these two extremes, all forms of transition are found. Dyspnea may be constant or intermittent, with or without acute paroxysms. Between attacks, respiration may be entirely normal. There may be a constant and persistent inspiratory stridor, and in extreme dyspnea an expiratory stridor also, which is, however, less marked. In paroxysmic dyspnea, the child suddenly suffocates and becomes cyanotic. The stridor is extremely marked, respiration becomes accelerated and there is a sucking in of the suprasternal and infrasternal fossae. The choking spell may occur without cause, or when the child cries from pain or anger. Hyperextension of the head or dorsal decubitus exaggerates dyspnea. This would explain why dyspnea is more marked during sleep than during waking hours.

These paroxysms of dyspnea are extremely alarming to witness, and there is a great temptation to perform a tracheotomy. In such cases tracheotomy is useless, because the tube used is too short, the pressure taking place lower down in the thorax. From now on, every tracheotomy outfit should have tracheotomy tubes long enough to reach the bifurcation of the trachea. An interesting fact of the thymic dyspnea is that the voice is normal during the paroxysms as well as between. The choking spell may last a few minutes, a few hours or a few days, and then respiration becomes normal again. In other cases, death ensues. In certain cases the child dies at the beginning of the choking spell.

This dyspneic condition begins, as a rule, in the first weeks or months and diminishes the second year of life and is more seldom found after this period. This may be due to the fact that the gland normally retrocedes after the second year of life and that the superior opening of the thorax becomes larger with the growth of the child.

The spell of suffocation is due to compression of the windpipe by the thymus hyperplasia. The trachea is compressed to a more or less marked degree; the posterior wall of the trachea comes in contact with the anterior, so that there is very little or no space at all for the passage of air. The trachea may be compressed and displaced at the same time, especially toward the right side. When the trachea has been released from the pressure of the thymus, the flattening may remain; but in certain cases, especially in younger children in whom the trachea has kept its normal elasticity, the trachea resumes its normal caliber. This is especially true in chronic and in intermittent cases.

Pressure on the windpipe by the thymus takes place at two different points (Fig. 5).

The first point of pressure is found between the posterior surface of the manubrium sterni and the first and second vertebrae. At the superior opening of the thorax of a child the anteroposterior diameter measures only 2 cm., and as a rule the hyperplastic thymus measures more than 2 cm. in thickness; as the superior opening of the thorax is absolutely rigid and cannot increase its diameter, the thymus coming up like a wedge between the sternum and the spinal column will naturally compress the windpipe. A finger placed behind the episternal notch feels the impact of the rising thymus. If the superior opening of the thorax cannot increase its diameter, it can, on the other hand, diminish it, for instance, in the hyperextension of the head (Fig. 6). In such cases the vertebrae are projected forward and in so doing diminish the anteroposterior diameter of the superior opening of the thorax. This would explain why in certain cases death has followed such a position.

Another point at which the compression of the windpipe may take place, too, especially in adults, is the point situated between the brachiocephalic trunk and the left common carotid. This compression is not confined to one ring of the trachea alone, but extends over a certain portion of it. This is easily understood when we consider the anatomic relations of the thymus with the trachea in that region. As the thymus presses on the anterior surface of the trachea in the space between the left common carotid and the brachiocephalic trunk, and as the trachea lies in front of the spinal column, in

ILLUSTRATING ARTICLE BY DR. ANDRÉ CROTTI ON "THYMIC TRACHEOSTENOSIS AND THYMUS DEATH"

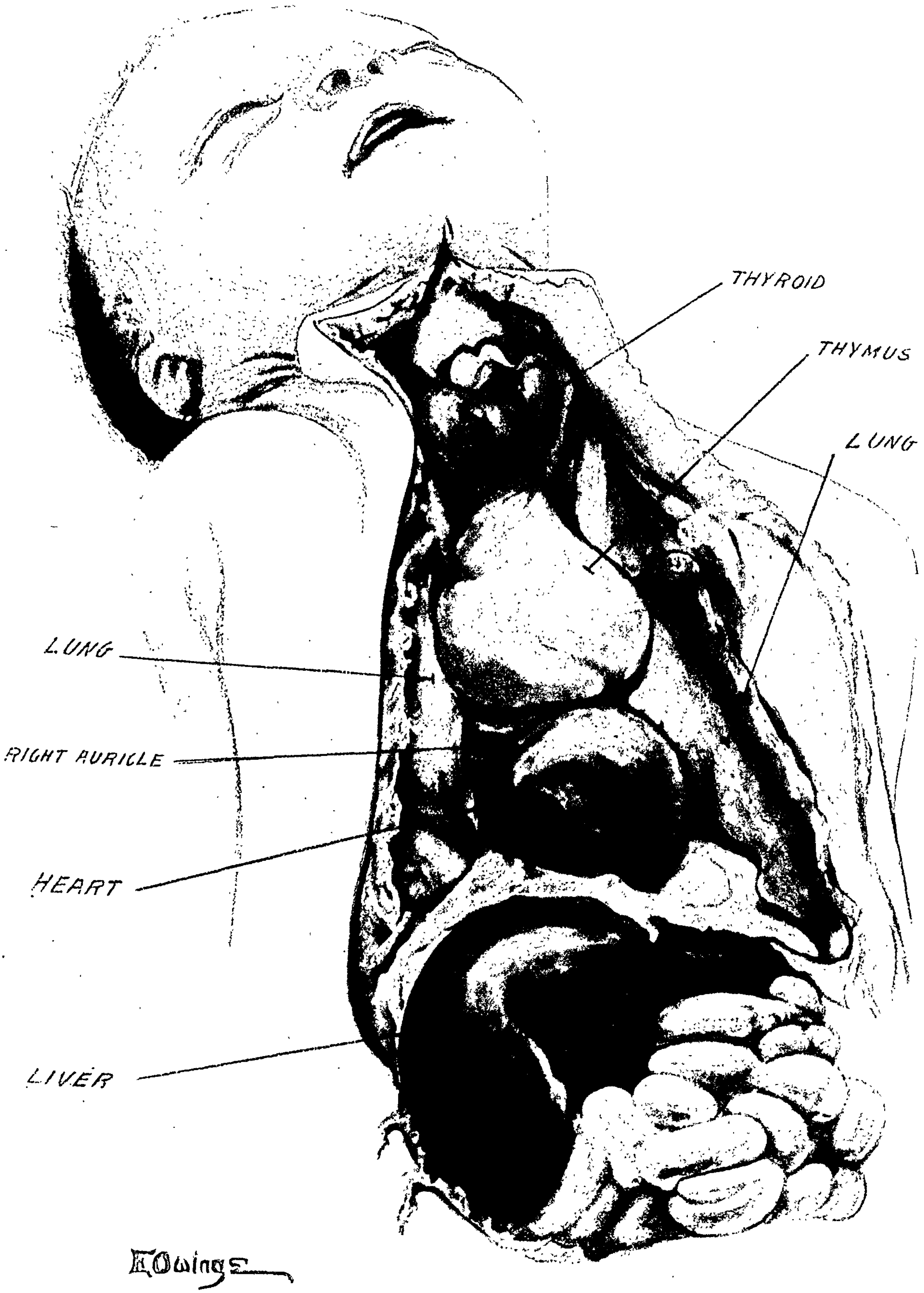

Fig. 3—Case 7.—Post-mortem, showing the relations of thyroid, thymus, heart and lungs to each other.

THE JOURNAL A. M. A., Feb. 22, 1913.

cases of sudden enlargement the thymus will exert a compression on the trachea, being itself compressed between the spinal column and the sternum.

The first form of compression, which takes place at the superior opening of the thorax, is found mostly in children, as illustrated by my previously reported Case 5. The second form or thoracic form, which takes place, as above mentioned, between the brachiocephalic trunk and the left common carotid, is found mostly in adults, as illustrated by Cases 1 and 3.

Stenosis of the trachea due to direct pressure by the thymus has often been demonstrated at autopsies, and the cases which I have reported corroborate these findings. The successful surgical operations which have been performed in order to relieve patients of symptoms of thymic tracheostenosis also confirm these views. In a case of tracheostenosis Jackson was able to demonstrate by tracheoscopy that the trachea was compressed between the second and fourth ribs.

Such a compression is not present in all cases in which the patient dies with marked dyspneic symptoms. In these cases I think the explanation may be the following: The hyperplastic thymus compresses and displaces the large vessels, namely, the aorta and the brachiocephalic trunk. If we remember that the inferior laryngeal nerve winds around these vessels (Fig. 5) it will easily be understood that these nerves will be put on the stretch by the displacement of these blood-vessels. We know that irritation or stretching of the inferior laryngeal nerve causes a spasm of the glottis, although dilators as well as constrictors of the glottis are supplied by the inferior laryngeal nerve. But the constrictors of the glottis being stronger than the dilators, the irritation of the inferior laryngeal nerve by stretching causes a spasmodic contraction, instead of a dilatation, and consequently a spasm of the glottis. In such cases tracheotomy would save the patient.

In other cases I believe that direct pressure on the base of the heart and consequently on the heart ganglions may be the cause of death. This explanation is suggested to me by Case 2, of my first series. In that case the base of the heart was practically choked by the enlarged thymus. In similar conditions there are no periods of choking, and the patient dies with all the symptoms of sudden cardiac collapse.

It would be a mistake to believe that thymus enlargement is the only cause which can give a congenital stridor and respiratory trouble. Such conditions may also be found with malformations of the vestibulum of the larynx, with tracheobronchial glands and with adenoids. An accurate differential diagnosis must be made between these different forms of stridor.

The congenital vestibular stridor is seen after birth. It is entirely inspiratory and is not found on expiration, except in rare cases. Cyanosis is present too, but the stridor and dyspneic symptoms disappear with intubation of the larynx, which is not the case for the thymic dyspnea in children. The laryngoscopic examination, when possible, and the autopsy show that this stridor is due to a malformation of the superior opening of the larynx. The epiglottis has a gutter or beak-like form and is folded in the middle line. The plicae aryepiglotticae of both sides come in contact one with the other; they are pulled down over the opening of the larynx and so diminish its orifice; hence dyspnea and stridor.

Stridor due to tracheobronchial glands is found mostly on expiration, and the voice has a bitonal character. Furthermore, the thymic stridor is congenital; the tracheobronchial stridor is acquired. Percussion and radioscopy will reveal entirely different findings.

In adenoids there may be a difficult and labored breathing, which is more noticed during sleep; but in such cases, diagnosis will be easy.

Thymic stenosis should not be mistaken for a retrovertebral abscess or an acute laryngitis. In laryngospasm of infancy the period of apnea is very short, and in a few seconds respiration begins again. It is always a manifestation of a spasmogene diathesis and is always accompanied by other symptoms or other stigmata (Erb's facial and Trousseau symptoms).

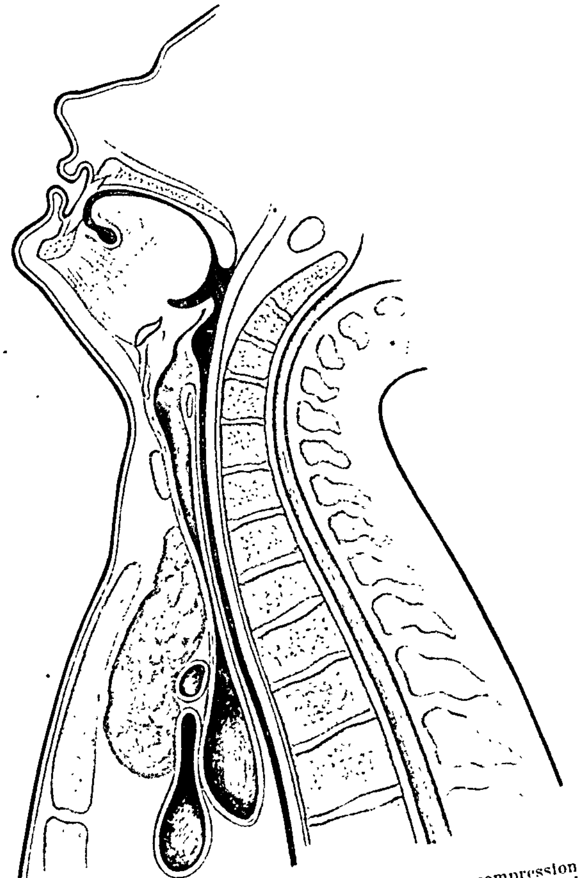

Fig. 6.—Hyperextension of the head, showing how compression of the trachea by a hyperplastic thymus can take place. The cervical vertebrae are displaced forward; the larynx and mediastinal organs are raised upward; the thymus is caught like a wedge between the sternum and spinal column. Hence compression of windpipe (Klose)

The hyperplastic thymus may come in contact with and compress the right and left auricle and ventricle, the superior vena cava, the aorta, the brachiocephalic trunk and the left common carotid (Fig. 4); hence cyanotic symptoms characterized by distention of the veins of the neck, the puffiness of both supraclavicular spaces, cyanosis of the face and distention of the large fontanelle. During paroxysms these symptoms become extremely marked. The veins of the neck are much distended and the fontanelle protrudes: the face is puffed and the child is in a semi-comatose condition. The heart beats violently, or in certain cases stops beating. When the paroxysm is over, these symptoms retrocede, but in other cases it terminates in death. Autopsy shows that compression of the right auricle and ventricle and of the superior vena cava and aorta is very marked. In such cases the dyspneic symptoms are of secondary importance. The vascular symptoms dominate the scene and extreme repletion of the veins of the neck and face, distention of the large fontanelle and the tendency to collapse will differentiate this form of cyanosis from the one due to congenital malformations of the heart. In the persistence of the foramen ovale, the cyanotic condition of the patient is uniformly distributed and persistent.

In people who die suddenly, autopsy does not always show the cause of death. In such cases, especially in children and young adults, the thymus is found enlarged. It is the only finding. If the thymus compresses the trachea and the large vessels, dyspnea and cyanosis will be found in the history of the case, and the autopsy will reveal that there is a compression of the windpipe and of the large vessels by an enlarged thymus. In such cases, even when the paroxysms have been short and unique, the cause of death is easily found, and its relation to the enlargement of the thymus is seen. But besides these, there are other cases of sudden death, in which no causes at all are revealed. There is no dyspnea, no cyanosis. The thymus is enlarged, but there is no sign of compression anywhere. Such deaths occur under anesthesia, and it makes no difference what anesthetic is used or in what amount. Death occurs early in the process of anesthesia or even after the patient has recovered from the anesthetic. In such cases, as a rule, the patient during anesthesia shows a tremor which mbles shivering from cold, as in my Cases 2 and The respiration is accelerated and superficial; the lse is weak; *the face is white; the pupils are dilated;* respiration stops first and then the heart.

Death during anesthesia for operation for adenoids has been thought to be due to a thymus enlargement, which in such cases coincides with the enlargement of the tonsils, adenoids and other lymphoid tissues—in other words, with a status thymolymphaticus. Sudden death may occur in little children, especially during the night. The child wakes up suddenly, tries to stand up, his pupils become dilated, his respiration stops, he stiffens and contracts himself and dies. This death has been reported, too, after plunging the child into cold water, after the opening of a retropharyngeal abscess, after a simple examination of the throat and after a simple hyperextension of the head.

Hyperplasia of the thymus has been found in connection with alterations of the endocrines glands, in simple goiter, hyperthyroidism and myxedema, acromegaly and tetany In goitrous countries, especially in Bernese regions, where goiter is endemic, thymus hypertrophy and struma in the new-born is exceedingly frequent. In 1910, in the Bernese Pathologic Institute, forty-four post-mortems of the new-born were made. In twelve of these cases thymus hyperplasia was extremely marked and the goiter of large size. In adults this combination of thymus hyperplasia and goiter is more frequent than it has heretofore been supposed.

Rössle reports a series of fifty-two cases of hyperthyroidism with thymus hyperplasia. McCardi, in thirty-five cases of sudden death in hyperthyroidism, found eighteen cases with hyperplasia. Rehn, in 319 cases of Graves' disease, treated surgically, had forty-two deaths. Six patients died with extremely marked dyspneic symptoms. In the literature Matti found 133 cases of hyperthyroidism, in which post-mortem had been held, and in ninety-eight cases, making 74 per cent. of the total cases, hyperplastic thymus was found. These figures show that thymus hyperplasia, in combination with Graves' disease, is very frequent.

In many such cases death has been mechanically due to a compression of the windpipe or to a stretching of the inferior laryngeal nerve, but in a great many other cases death can occur without compression or irritation of the laryngeal nerve, and no dyspneic symptoms are present. In such cases the explanation of sudden death by compression of the large vessels and trachea would not be correct. Some have thought that death was due to compression of the phrenic nerves, hence apnea; others have thought that death was due to pressure of the vagus and inferior cardiac nerve, hence collapse; but there are no anatomic facts to substantiate these theories. When compression on the base of the heart is very marked, as in my Case 3, I believe that death may be due to a compression of the heart's ganglions.

Paltauf explains such death by his lymphaticothymic theory. In his judgment, thymus hyperplasia is only one symptom among others of a disease which involves the entire lymphatic apparatus, and which he calls status thymolymphaticus. This condition would cause abnormal metabolic changes, which take place in the nervous centers controlling the heart action and cause a sudden cardiac insufficiency with acute dilatation of the heart. This hypothesis, possibly correct in a few cases, has not been sufficiently corroborated by facts, and does not stand the analysis of our new anatomic and physiologic acquisitions. The thymus is not a lymphoid, but a glandular organ. Cases of pure thymus hyperplasia, without status lymphaticus, and vice versa, are often found, and in many cases of thymus hyperplasia with sudden death the syndrome of Paltauf is lacking.

Lately Svehla has asserted that the thymus gives off an internal secretion, and he thinks that death is due to this substance acting on the heart and the nervous system.

In injecting a watery solution of thymus extract into animals, Svehla found a diminution in the blood-pressure and increased rapidity of the pulse. Repeated injections caused death of the animals; therefore he considers the mors thymica a consequence of a hyperthymization, which causes a diminution in the blood-pressure.

Vincent, Hart, Sheen, Farini and Vidoni confirmed these findings, but found that other extracts of tissues, muscles, kidney, liver, testicles, spleen, pancreas and lungs have the same depressive effect on the heart; these observers concluded that this property of diminishing the blood-pressure is not specific to the thymus.

The physiologic action of the thymus is not yet clear. This organ must certainly be of importance to the organism, because it grows until the age of puberty and then gradually retrocedes, but remains of it are still found in old age. According to the latest experiments of Klose, this organ is essential to life. Congenital absence of the thymus has been found in a few cases, but only in the new-born who died from other causes, so that they did not live long enough to show the pathologic effects of an absence of the thymus. Lubarsch performed an autopsy on an infant 8 weeks old, in which the absence of the thyroid was total. A careful examination of the other glands, thyroid, hypophysis, adrenals, pancreas and genital organs did not reveal any detectable pathologic conditions.

The results of the transplantation of thymus are contradictory, and it may be said in conclusion that the transplanting of a normal thymus does not cause any symptoms, but that the transplanting of a hyperplastic or pathologic thymus causes toxic symptoms which center their effect especially on the circulatory and nervous apparatus. In my Case 3, I had marked thymotoxic symptoms; in Case 4, no symptoms at all.

Bircher, after implanting in the peritoneal cavity of dogs a fresh hyperplastic thymus taken from a patient who died after an operation for Graves' disease, observed marked cardiac and nervous symptoms, a hyperplasia of the thyroid gland and an exophthalmos. Schmidt and other authors in doing the same experiment obtained negative results.

How is death after strumectomy in hyperthyroidism to be explained? In order to give a satisfactory answer, we should know a little more about the relations between the thyroid and the thymus. Do they have an antagonistic action or do they work harmoniously? Gierke believes that the two glands compensate each other more or less and that in strumectomy there is a diminution in the thyroid secretion and consequently an increased thymus function, which causes a hyperthymization.

Rössle thinks that the hypertrophy is only an expression of the increased demand in the function of an organ; possibly in Graves' disease the hypertrophy of the thyroid is not sufficient to furnish the desired amount or quality of secretion. Therefore the thymus hypertrophies in order to supply the deficiency of the thyroid.

Hart thinks that there is an antagonism between the functions of the thymus and the thyroid. He believes that the hyperplasia of the thyroid is due to the effort of this gland to destroy the poisons of thymic origin. Sudden death after strumectomy in hyperthyroidism is due, according to Hart, to a thymic auto-intoxication.

Garre, Capelle and Bier believe that the thymus aggravates the hyperthyroid symptoms. The thymus, in their judgment, does not compensate the thyroid secretion, but works more or less harmoniously with the thyroid; the thymus, like the thyroid, has a sympatheticotonic and vagotonic action.

Bircher believes in the possibility of a hyperthyroidism of thymic origin and thinks that the thyroid and the thymus have an antagonistic action.

From all these different opinions, we can draw the conclusion that the hyperplastic thymus aggravates Graves' disease, but we do not yet know the exact relation between the thymus and the thyroid. The solution of the problem is still a difficult one and will be solved probably when we know a little more about the internal secretion and the part played by the hormones.

Wiesel and Hedinger found in cases of status thymolymphaticus a hyperplasia of the chromaffin system, and Matti found experimentally that after thymectomy the medullary substance of the adrenal bodies is markedly increased and that in cases of thymus hyperplasia the medullary substance of the adrenals was decidedly diminished. Hence the conclusion of Wiesel that in cases of status thymicus there is a hypoplasia of the chromaffin system. In that case the secretions of these bodies, which in normal condition have a tonic action on the vascular system, are diminished or wanting; hence hypotony, a diminution in the blood-pressure, and finally a paralysis of the vascular and cardiac systems and death. This explanation is not in accordance with my researches. I have made it a practice to determine the epinephrin content of the blood in every goiter case. In hyperthyroidism I have found, as a rule, an increased epinephrin content in the blood. The whole question is far from being solved and needs further investigation.

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BOILED VERSUS RAW MILK

AN EXPERIMENTAL STUDY OF MILK COAGULATION IN THE STOMACH, TOGETHER WITH CLINICAL OBSERVATIONS ON THE USE OF RAW AND BOILED MILK

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Milk, alone of all foods, enters the stomach a liquid and becomes there a more solid food. This hidden and insidious solidness, if I may use the term, is peculiarly characteristic of raw cow's milk, as compared with boiled cow's milk, or human milk. The housewife and the dairyman are practically familiar with the fact that boiled milk forms a different curd from raw milk. We, on the other hand, have quite ignored the fact that raw and boiled milk are not identical foods. If we have thought of it at all it has been rather from a bacteriologic than from a physiologic point of view. And yet boiled cow's milk forms in the stomach, as does human milk, nearly a liquid food; while raw cow's milk, as I shall hope to demonstrate, is not even a soft food, but a solid food, so solid, in fact, that, unless modified in some way and given in careful moderation, it commonly forms hard masses that pass undigested throughout the whole alimentary tract and appear as hard curds in the stools.

It is exactly in these hard curds that one has the most tangible evidence that raw and boiled milk are not interchangeable clinical and experimental factors. It will be remembered that Talbot[1] demonstrated from various angles that these "hard tough curds" were casein derivatives, that is, "casein curds," in contradistinction to the small, soft, white curds that are "fat curds." Meyer and Leopold,[2] representing the Finkelstein school, denied the existence of a casein curd, basing their conclusions on the analysis they had made and on metabolism experiments. There was only one possible explanation for this discrepancy between equally competent observers about so simple a phenomenon; the hard curds that Talbot and other American clinicians described did not occur in Leopold and Meyer's experience. Talbot used raw milk, Meyer and Leopold used boiled milk exclusively, and the hard curd is essentially a raw-milk phenomenon, as pointed out independently by Ibrahim[3] and myself.[4] Meyer then fed a number of babies raw milk and promptly for the first time in his enormous experience saw these hard curds, and at once granted their casein origin. After being impressed again and again by the striking differences in the behavior of raw milk and boiled milk, first in the clinic and then in laboratory and stomach experiments, I cannot help feeling that other differences in clinical results will be cleared up, as in this case, if we have in mind that raw milk and boiled milk are not identical foods.

In the former paper[4] I offered as an explanation, as did also Ibrahim,[3] for the invariable occurrence of these hard curds when enough raw milk was fed, that, while boiled milk formed fine soft curds in the stomach, raw milk formed large hard curds that under given conditions would be passed through the whole digestive tract before they were completely digested. The evidence for this explanation was twofold:

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[1] Talbot, F. B.: Composition of Large Curds in Infants' Stools, Boston Med. and Surg. Jour., June 11, 1908, p. 205; The Composition of Small Curds of Infants' Stools, Boston Med. and Surg. Jour., Jan. 7, 1909, p. 13; Casein Curds of Infants' Stools, Arch. Pediat., December, 1910, p. 919; Casein Curds in Infants' Stools, Biologic Proof of Their Casein Origin, Arch. Pediat., June, 1910, p. 440.

[2] Meyer, L. F., and Leopold, J. S.: Masses in Infants' Stools, Arch. Pediat., February, 1910, p. 126.

[3] Ibrahim, J.: Kaseinklumpen I hang mit Rohmilchernährung, Mon No. 2.

[4] Brennemann, Joseph: A Con the Etiology and Nature of Hard Jour. Dis. Child., May, 1911, p. 341.

1. Experiments *in vitro*. When rennin is added to raw milk in a beaker at a proper temperature the milk will quickly form a dense hard coagulum that separates rapidly and completely from the whey. Boiled milk under the same conditions coagulates less slowly, separates less completely and forms a soft, finely divisible curd that differs but little from a thick liquid.

2. The clinical observation that babies fed on raw cow's milk will at times vomit hard, leathery curds of enormous size.

A third observation, made since that time, makes this explanation even more probable. In a series of babies I have found that if raw milk is injected by rectum and retained for a time, the next bowel movement will contain typical hard curds, indistinguishable from those that occur when raw milk is fed by mouth. If the milk was returned in a short time the curds were soft and white; if after four or five hours, they were smaller and harder, more brownish or amber-colored, and more rounded or bean-shaped, an exact parallel to what occurs when these curds are present clinically. Thus in diarrhea, in which they are rushed through rapidly, they resemble more nearly a fresh-milk coagulum. As a condition of constipation is approached and they pass through more slowly they contract longer and are therefore harder, are more stained and are more rounded. If a portion of the feces of one of these babies is added to milk, the latter will coagulate as with rennin. The identical nature of the process of curd formation in the two cases can hardly be doubted. With boiled milk no such typical hard curds were formed in the rectum.

The interest now naturally drifted away from the hard curds to the processes going on in the stomach that produced them. The difference in coagulation of raw and boiled milk as shown in the beaker could not be applied forthwith to the stomach. One must assume, until the opposite is proved, that a living organ, lined with an active mucous membrane, with a complex specific secretion and a constant peristaltic motion, acts otherwise on ingested milk than would a motionless glass beaker. Czerny[5] has maintained, for example, that the constant motion of the stomach prevents the formation of large hard curds. That motion does not prevent the formation of large hard curds is evident from experiments *in vitro* when the milk and rennin are constantly stirred or shaken. In fact, the curds thus formed are always large, with raw milk, and peculiarly hard; often, indeed, the whole curd content of the beaker is collected in one hard mass. Whether there are other conditions present in the stomach that cause milk to act differently there than in a beaker can be determined only by a study of what goes on in the stomach itself.

Such a study presents difficulties that are greater than one would at first imagine. The stomach-tube, on account of the size of the curds, is worse than useless, because its use can lead only to erroneous conclusions. The use of an emetic introduces an element that is objectionable because unnatural, and is accompanied by discomforts that practically prohibit its use. Both are peculiarly contra-indicated in an infant, and the use of an emetic, especially in the presence of large hard curds, would not be wholly free from danger.

While debating in my mind how these difficulties could be overcome, I discovered a healthy young adult, with normal digestion, and according to an analysis by Dr. Buhlig, with normal stomach contents, who could promptly, with little effort and a minimum of trauma to the curds, empty the stomach by the simple method of passing the finger into the throat. I intended at first to have this done only twice, once with raw milk and once with boiled milk, but the process was so free from serious discomfort, the disclosures so interesting, and the subject so willing, that about forty experiments were made with raw and boiled milk and with various "milk modifiers." While these observations were made on the adult, and only such application must be made to the infant as known identical physiologic conditions would warrant, nevertheless they can at least form a working basis for clinical observation in the infant.

In all of these experiments, unless otherwise stated, one quart of certified milk was taken in a period of about five minutes, at a temperature of about 95 F., on an empty stomach before breakfast, and was returned at the end of thirty minutes. One quart was a simple measure and represented about the amount, relatively, that a baby would take at one feeding. When "boiled" milk was used it was milk boiled actively for five minutes in a single boiler and then cooled to 95 F. as before.

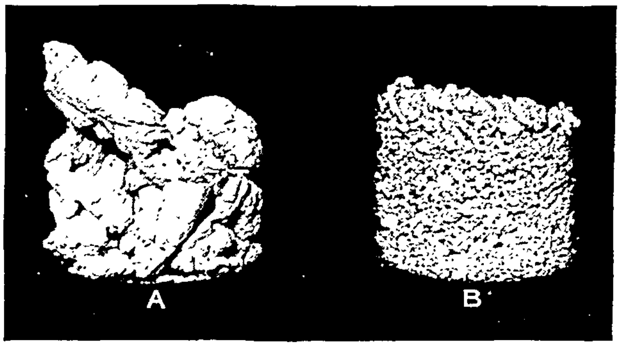

Fig. 1.—*A*, curds of one quart of raw fat-free milk returned from the stomach after thirty minutes; *B*, curds of one quart of boiled fat-free milk returned from the stomach after thirty minutes. (The glass jars in which the specimens in this and the following illustrations were placed do not show in the reproductions. All pictures of specimens are one-half their actual size.)

After examining the returned contents, 40 per cent. formaldehyd solution was added up to 10 per cent. After standing for from six to twelve or more hours the curds were hard, and were then washed, dried and placed in jars as here shown. The preserved specimens are all smaller than the fresh ones, very much so when returned in thirty minutes, because they contracted considerably after being returned, while those remaining in the stomach much longer contracted very little.

REPORT OF EXPERIMENTS

Experiment 1 (*Fig. 1 B*).—A quart of boiled fat-free milk, returned in thirty minutes, had curdled in fine, small, easily divisible, soft masses, that were of about the consistency of good custard, and were imperfectly separated from the whey even after standing for some time.

Experiment 2 (Fig. 1 *A*).—Same as Experiment 1, except that one quart of raw fat-free milk was used. There was complete separation of curd and whey. In the clear straw-colored whey there were lying enormous, distinctly isolated curds that were firm and more or less rubbery, could be handled easily without breaking, and resembled exactly the curds I had become familiar with in beaker experiments when the milk and rennin were stirred constantly. So large and firm were these curds that they caused a sensation of alarm as they passed the throat. The average size was from that of a hazelnut to that of a walnut; many were 2 inches long, and one was 3 inches long and for the greater part of its length was 1 inch in diameter.

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[5] Czerny, A.: Des Kindes Ernährung, Ernährungs-Störungen und Ernährungs-Therapie. 1909. Franz Deuticke, Leipsic und Berlin.

EXPERIMENT 3.—Same as Experiment 2, using raw whole milk. The result was the same except that the whey was a little milkier, and the curds somewhat yellower, softer and even larger than before. One curd was 4 inches long. Another came into the throat, stuck for a while, had to be reswallowed, and resisted all further attempts at delivery.

EXPERIMENT 4.—Same as Experiment 3, except that the raw whole milk was returned in one hour instead of thirty minutes. About a pint was returned. There was complete separation, as before, of curd and whey, but the latter was more turbid, was distinctly bitter and contained more mucus. The curds were somewhat smaller than before, were less angular, more rounded and firmer, and many had bizarre shapes, evidently arising from the coalescing of several curds. There were many more fine curds than before.

EXPERIMENT 5 (Fig. 2 A).—Same as Experiments 3 and 4, except that the raw whole milk was returned at the end of two hours. About a pint was returned. This was much more bitter than in the previous experiments, and had a decided taste and odor of vomitus for the first time. The whey was decidedly turbid. There were few small curds, but the remaining curds were larger and harder to return than in any other experiment in the whole series. One curd, from one-half to three-quarters of an inch thick, was 5 inches long and extended laterally 2½ inches at one end and 1½ inches at the other end. Another was banana-shaped, 1 inch in diameter and 3 inches long. Another was 2½ by 1½ by ¾ inches. They were all smooth and rounded, as if the sharp corners had been packed down.

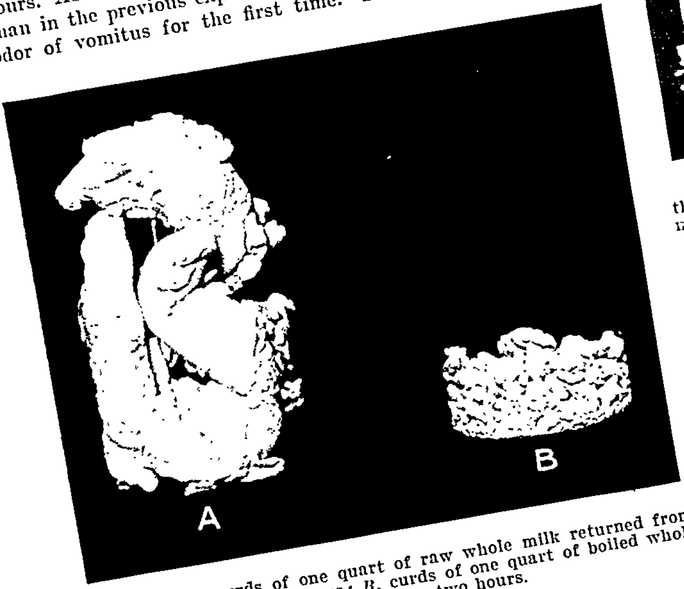

Fig. 2.—*A*, curds of one quart of raw whole milk returned from the stomach after two hours; *B*, curds of one quart of boiled whole milk returned from the stomach after two hours.

EXPERIMENT 6 (Fig. 2 *B*).—Same as Experiment 5, except that boiled whole milk was used. Returned in two hours. There was so little whey that it was necessary to drink a glass of water to be able to return all of the curds. The curds were still abundant, averaged from a pea to a small hazelnut in size, and were larger and firmer than when returned in thirty minutes.

EXPERIMENT 7 (Fig. 3 *B*).—Same as Experiment 6, except that the boiled whole milk was returned in three hours. Contents could not be returned without drinking water. Were reported "bitter and sour." About a tablespoonful of rather soft, round curds were returned, that were about the size of sand grains, with a few as large as a pea. A large mass of mucus floated on top of the water with gray, feathery, stringy masses of milk tangled up in it. The stomach was thus nearly empty after three hours, with boiled milk.

EXPERIMENT 8 (Fig. 3 *A*).—Same as Experiments 3, 4 and 5, except that the raw whole milk was returned in five hours. A glass and a half of water was required to return it. It was reported that the returned fluid was very "bitter" even in this dilution, but especially that "it left a horrid taste in the mouth as after taking vinegar." The liquid was very turbid and was filled with feathery whitish strings of mucus radiating out in parallel lines from the remaining curds to which they were intimately attached. There were still about ten curds an inch or more in length, and from half an inch to an inch in breadth. One was over 2 inches long. All were rounded or almond-shaped and firmer than in any preceding experiment. Some had, again, bizarre shapes, and looked as if eaten into, an appearance that is characteristic of the large, hard, yellowish curds of infants' stools. There were few small curds. Thus with raw milk there were still large curds after five hours.

EXPERIMENT 9 (Fig. 4 *B*).—One quart of whole milk was pasteurized by heating twenty minutes at 155 F. and was returned in thirty minutes. The result lay between that of raw and boiled milk but much nearer the former. There was complete separation of curd and clear whey as with raw milk. The curds were not so massive but had all the characteristics of raw milk curds.

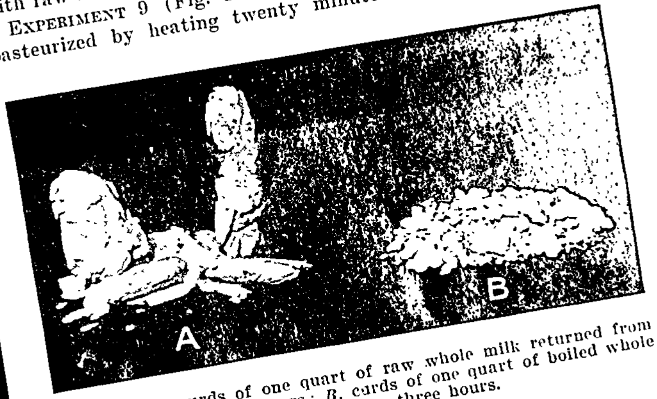

Fig. 3.—*A*, curds of one quart of raw whole milk returned from the stomach after five hours; *B*, curds of one quart of boiled whole milk returned from the stomach after three hours.

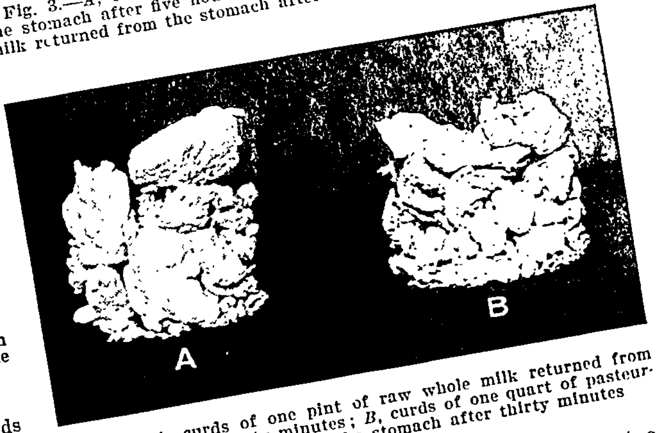

Fig. 4.—*A*, curds of one pint of raw whole milk returned from the stomach after thirty minutes; *B*, curds of one quart of pasteurized whole milk returned from the stomach after thirty minutes

So far in each experiment the quart of milk was taken in about five minutes. To meet the objection that a baby does not take its milk in this way, but slowly over a period of from ten to twenty minutes, the following test was made:

EXPERIMENT 10.—A quart of raw whole milk was sipped slowly in a period of forty-five minutes, and returned thirty minutes later. One pint of clear whey, without bitter taste, was returned and contained only one small curd. Two [illegible] of water were returned clear with [illegible] For so [illegible] a "heavy feeling" was felt under t [illegible] of t [illegible] If a Five hours later, with two glas [illegible] were returned, that were each about the size of a large almond, and resembled closely those of Experiment 8.

To exclude the possibility of coincidence this experiment was repeated four times:

EXPERIMENT 11.—Duplicate of Experiment 10. Result exactly the same except that there were no curds after thirty minutes or after five hours.

EXPERIMENT 12.—Same as Experiments 10 and 11, but sipped only thirty minutes. Result the same. Only one curd after thirty minutes. No attempt was made to return the contents after five hours.

EXPERIMENT 13.—Same as Experiments 10, 11 and 12 except that one pint of raw whole milk was sipped in thirty minutes. Results exactly the same. Half a pint of clear whey was returned after thirty minutes. No curds then or five hours later.

EXPERIMENT 14.—Same as Experiment 13, but sipped in twenty minutes. Result the same except that the returned whey contained six or seven curds the size of unshelled almonds. This is at least suggestive that the shorter period of sipping is causing curds to return.

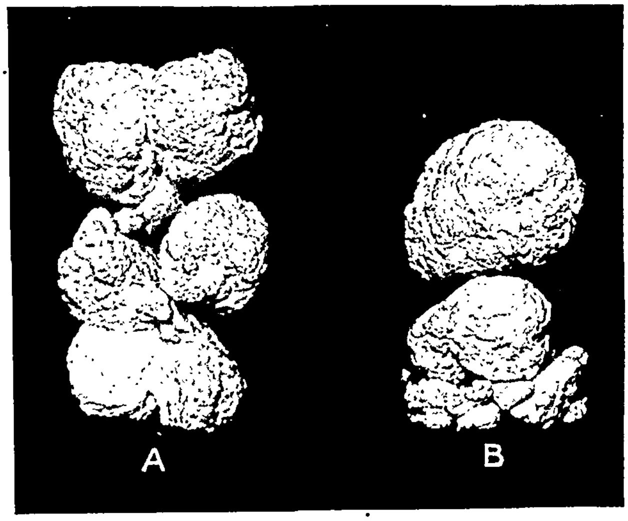

Fig. 5.—*A*, large curds formed in the beaker when raw whole milk and rennin solution were slowly mixed and stirred over a period of forty-five minutes and stirred for thirty minutes longer. Note coalescence of large curds. *B*, same as *A* except that raw fat-free milk was used. Only two very large curds and a few very small ones formed.

This astounding and most unexpected result to my mind admits of only one interpretation, that drinking raw milk very slowly favors the formation of a smaller number of curds so large that they cannot be returned. The large amount of unmistakable whey was positive evidence that the milk had coagulated completely as raw milk always does, and it is unthinkable that the curd could have passed on and left the whey. The absence of bitter taste, that is, peptonization, would alone exclude such a possibility. That they had not passed on was evident, too, from the fact that in the first case, at least, curds were returned after five hours.

Further evidence that this explanation is the correct one was obtained in two ways: (1) by repeating the sipping experiments with diluted raw milk, or with undiluted boiled milk, instead of undiluted raw milk; and (2) by duplicating the experiment in the laboratory. Diluted raw milk and undiluted boiled milk, even if they showed the same tendency to form larger curds if sipped, would still not be likely to form curds large enough not to be returnable.

EXPERIMENT 15.—Sipped in forty-five minutes a mixture of 1 pint of raw whole milk and 1 pint of water. The whey was returned clear with a large amount of curd practically indistinguishable in amount and size from those found when equal parts of raw whole milk and water were taken in five minutes. (See Experiment 19.)

EXPERIMENT 16.—One quart of boiled whole milk sipped in forty-five minutes and returned in thirty minutes. Large amount of curd returned, indistinguishable again from that of former experiment in which boiled whole milk was taken in five minutes.

The evidence from the laboratory was equally positive and demonstrated, once more, the striking parallelism between coagulation behavior in the stomach and in the test-tube. The laboratory experiment, furthermore, can be seen throughout the process, and offers an evident explanation for this phenomenon.

EXPERIMENT 17 (Fig. 5 *B*).—A vessel was set in water, over a heater, and kept at a temperature of from 100 to 105 F. To this was slowly added, over a period of forty-five minutes, from one vessel a quart of raw fat-free milk and from another a solution of 60 grains of chymogen (a proprietary preparation containing rennin) in 1 ounce of water. The mixture was stirred gently and constantly during this time and for thirty minutes after all the milk and ferment had been mixed. In five or ten minutes after the beginning of the experiment a fine flocculent coagulum began to form. The small curds formed during the process of stirring gradually united with one another into larger masses, which in turn attracted other smaller curds, until at the end of the experiment the clear whey contained two large round firm curds, one the size of a tennis-ball, the other that of a golf-ball. Neither, I feel sure, could have been returned from the stomach. Outside of these two large balls there were only a few small curds, such as those that were occasionally returned in the sipping experiments.

EXPERIMENT 18 (Fig. 5 *A*).—To exclude, again, the possibility of coincidence the experiment was repeated exactly with raw whole milk. In this case the coagulation was for some reason less rapid, the whey less clear as would be expected, but the result was otherwise identical. Practically all of the curd was collected into six round firm balls, each about the size of an English walnut.

The explanation for this phenomenon becomes evident as one watches coagulation experiments. Two curds brought into contact with one another almost immediately coalesce, so that practically no line of cleavage is left. This tendency seems proportional to the freshness of the curds. Thus in the last two experiments one could gradually see two or more curds predominating over the rest and uniting to them the small nascent curds as they came into contact with them. This accounts for the fact that not infrequently the curd of milk and rennin, stirred constantly in a beaker, will form in one large hard ball. This union of curds is well shown in the specimen of the six balls of the second experiment that were allowed to lie together in a graduate for a few seconds before formaldehyd solution was added. They were quite inseparable.

It is probable that such coalescence of curds takes place less readily in the stomach. Two stomach curds if brought in contact show relatively little tendency to unite. This seems to be due to the coating of mucus over the curds, and is probably proportional to the amount of the latter. Indeed, if curds united as readily in the stomach as they do in the beaker, it would be hard to see how their union into one large curd could possibly be avoided, when we consider how peculiarly favorable the peristaltic movements of the stomach as shown in recent *x*-ray work are for pressing the contents together. That curds do unite, however, in the stomach is shown in the sipping experiments and in the facts that the largest curds occurred after two hours and that many large curds are manifestly a union of several smaller curds.

When we come to consider the question of whether boiled milk differs clinically and therapeutically from raw milk, it will be of interest, first, as bearing directly on this question, to see what happens in the stomach when the various empirically time-honored "milk-modifiers" are used. It is certainly an interesting fact in this connection that nearly all "milk-modifiers" such as dilution with water, cereal water dilution, alkalinization, condensation, drying, souring, peptonization, the use of pegnin or other lab-ferments, all have one thing in common: they prevent in one way or another the formation of a large hard curd in the stomach. Have we not been told emphatically too by Finkelstein[6] that *Eiweissmilch*, which also has been modified in this way, does not work well, in fact can work disastrously when the curd is not fine? The following experiments were made along this line:

EXPERIMENT 19 (Fig. 6 *A*).—Dilution. A mixture of 1 pint each of raw whole milk and water was returned in thirty minutes. There was complete separation of curd and whey, but the latter was somewhat turbid. The curds were much smaller, softer and more friable than with undiluted milk. Although many of them were from 1 to 1½ inches long, they were peculiarly thin, often membrane- or ribbon-like, and all seemed spongy or porous. There was also a large amount of crumbly detritus.

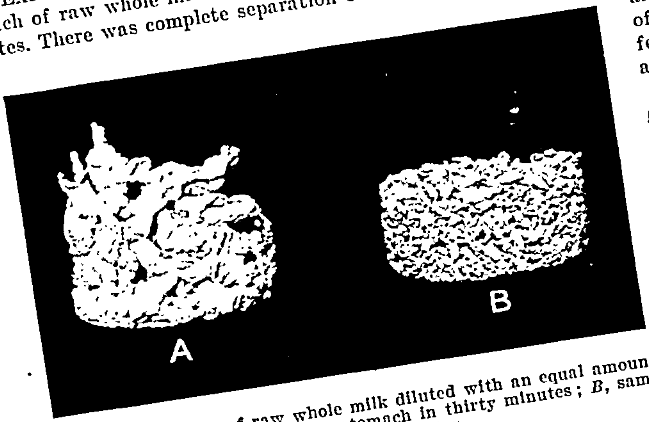

Fig. 6.—*A*, curds of raw whole milk diluted with an equal amount of water and returned from the stomach in thirty minutes; *B*, same as *A*, with barley-water substituted for water.

EXPERIMENT 20.—Same as Experiment 19, except that the milk was boiled and the mixture was returned in one hour. There was so little whey that it was necessary to drink water. About a level tablespoonful of soft fine curd, about like coarse sand, was returned.

EXPERIMENT 21.—A mixture of 8 ounces of raw whole milk and 24 ounces of water was returned in thirty minutes. This did not differ much from the dilution of 1 to 1, but the curds were a little smaller and still more porous or spongy looking. The latter condition seemed characteristic of diluted milk.

EXPERIMENT 22 (Fig. 6 *B*).—Barley-water. A mixture of 1 pint of barley-water (one-half ounce of barley flour to 1 pint of water boiled twenty minutes in a single boiler) and 1 pint of raw whole milk was returned in thirty minutes. The curds were small, like fine gravel, of peculiarly uniform size, with few as large as peas. About a third of them floated. They were greenish-gray in color. They were much finer even than with the 1:3 dilution with water, and were about the same size as those of undiluted boiled milk.

EXPERIMENT 23.—Sodium citrate, 2 grains to the ounce, was added to 1 quart of raw fat-free milk and returned in thirty minutes. There was no separation whatever of curds and whey even after standing for some time. The milk was simply thickened like a good cream soup, with no distinct curd formation, except an occasional small floccule.

EXPERIMENT 24.—Sodium citrate, 1 grain to the ounce, was taken in 1 quart of raw whole milk and returned in thirty minutes. The returned fluid looked like pale bluish milk, and the curds were soft, scraggly looking, about midway in size and consistency between those of raw and those of boiled milk.

EXPERIMENT 25.—Sodium citrate, 1 grain to the ounce of milk, that is, 16 grains in a mixture of 1 pint of raw whole milk and 1 pint of water, was returned in one hour. The separation of curd and whey was much more complete than in Experiments 23 and 24. The curds were about the size of coarse sand or fine gravel, and nearly all floated. The reaction was practically the same as in Experiment 20, with equal parts of boiled milk and water.

EXPERIMENT 26.—Sodium bicarbonate, 2 grains to the ounce, in 1 quart of raw whole milk, was returned in thirty minutes. The result was indistinguishable from that when an equal amount of sodium citrate was used, except that the returned fluid was yellow, probably because whole milk was used. The mixture was so nauseating and hard to take that only 28 ounces could be swallowed. Large amounts of gas were returned during the process, sometimes bringing milk with them. For some time there was annoying belching and a feeling of fulness. These objectionable features were of course wholly absent with the sodium citrate.

EXPERIMENT 27.—Lime-water, 5 per cent., that is, 30 ounces of raw whole milk with 1½ ounces of lime-water, was returned in thirty minutes. There was distinct separation of curds and whey, but the latter was rather milky, though not so much so as with the sodium salts. The curds were about the size of those of milk with 1 grain of sodium citrate to the ounce, that is, about midway between those of raw and boiled milk. They were, however, peculiarly soft, scraggly and friable, so that they could hardly be picked up without breaking.

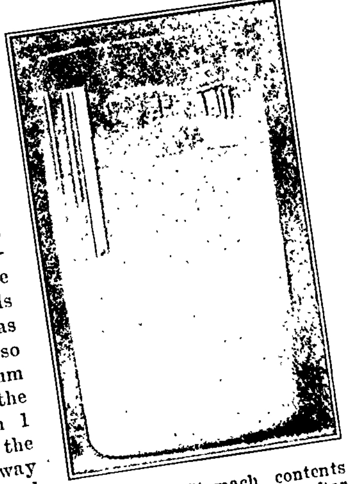

Fig. 7.—Stomach contents returned thirty minutes after drinking one quart of a 1:10 watery solution of condensed milk.

EXPERIMENT 28.—Lime-water 10 per cent., under the same conditions as in Experiment 27. The result was the same, except that the curds, while perhaps not smaller, were even thinner, more ribbon-like or flaky, more soft and friable than in the preceding experiment, and were described as subjectively "the softest yet." The returned contents were said to have a "very sweet taste."

EXPERIMENT 29 (Fig. 7).—Condensed milk, 1 quart of 1:10 dilution with water, was returned in thirty minutes. The curd formed a fine soft flocculent precipitate like fine white sand. This quickly settled to the bottom like a fine sediment leaving about an equal amount of nearly clear water above it.

EXPERIMENT 30.—Buttermilk. One pint of milk ripened with *Bacillus bulgaricus* was returned in one hour. About 10 ounces were returned. There was no perceptible change, but it was said to have been "sourer up than down."

No tests were made with powdered milk foods, or with *Eiweissmilch*, but there can be no doubt what the result would be.

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6. Finkelstein, H., and Meyer, L. F.: Ueber Eiweissmilch, Jahrb. f. Kinderh., May and June, 1910.

cate some of the experiments on myself. Using the same method was wholly unsuccessful and the following was resorted to as the nearest imitation:

EXPERIMENT 30 (Fig. 8 *A*).—One quart of raw whole milk was swallowed in five minutes, and thirty minutes later one-tenth grain of apomorphin was taken hypodermically. The result was satisfactory in about ten minutes, and the curds and whey were exactly as in the other case except that they were somewhat smaller. This may be accounted for, to some extent, by the comparatively prolonged and violent labor required to deliver the curds that at this stage are still quite breakable. The narcotic effect of the drug was, however, so violent for many hours that it seemed wiser to use only one twentieth of a grain in the remaining two attempts, with the result that, while the nausea was as intense, it was not so productive as with the larger dose.

EXPERIMENT 31 (Fig. 8 *B*).—A quart of boiled whole milk was returned after thirty minutes with about 2 ounces of curd that was exactly as in the other person, except that the curds were rather finer.

An attempt to return a quart of raw whole milk after four hours was not convincing. A small amount of turbid fluid was returned with some nearly disintegrated curds. Whether there were larger ones that were not returned is uncertain, as the effect of the drug was inadequate.

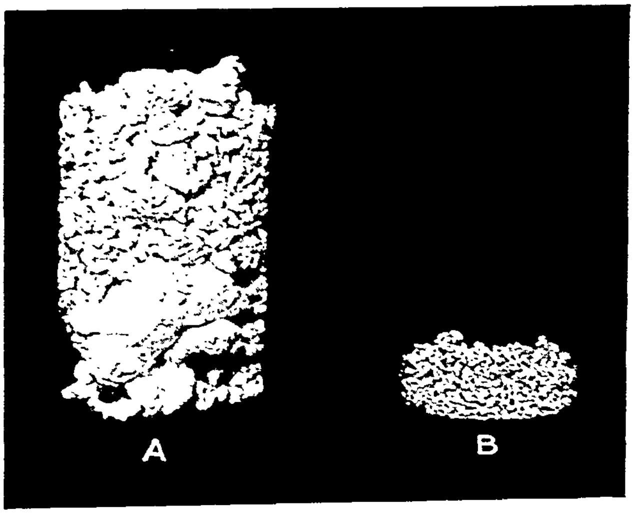

Fig. 8.—Same as Figure 1 in a second individual. *A*, raw whole milk; *B*, boiled whole milk.

The criticism that these findings may be largely individual in this case, and were only unsatisfactorily corroborated in a second case, must be admitted, and yet this applies rather to absolute than to the really more pertinent relative findings, such as the comparative coagulation of raw and boiled milk. To what extent these findings in the adult apply in the infant it is difficult to estimate. Since we know, however, that all of the ferments of the adult are present and active in the stomach of the baby it is not unfair to assume that, in all probability, the same relative reactions take place there as in the adult. These limited observations must be taken only as a working hypothesis for further clinical and experimental observation.

The really important question, after all, is not how raw milk and boiled milk coagulate in the beaker or in the stomach, but how the person reacts clinically to raw and to boiled milk. On account of the enormous individual factor in infant-feeding it is peculiarly difficult to generalize, and yet it seems to me that certain clinical differences stand out conspicuously. For many years we used raw milk almost exclusively at Northwestern University; for the last few years I myself have used raw or boiled milk according to what seemed to me indications, and somehow the indications for boiled milk seem to have increased at the expense of those for raw milk. In spite of a natural leaning toward raw milk, I find myself giving a large proportion of my babies, unless in florid health, boiled milk, and have frequently found myself in the position of many a mother who has told me, "I'm very anxious to get away from the boiling (or the soda), but I can't get farther than just so far and then I go back again." In this discussion I use "boiled" and "citrated" milk as practically synonymous because I have been unable to satisfy myself in what respects they differ from one another clinically, although I feel sure that there are differences.

DIFFERENT EFFECTS OF RAW AND BOILED MILK

While it has been a matter of surprise to me how frequently individual babies have no trouble with raw milk when one would expect it theoretically, nevertheless I am convinced that there are certain symptoms which are common with the use of raw milk and which disappear when the milk is boiled. This conviction, primarily the result of clinical observation, antedated the experiments I have here recorded.

1. The hard or tough curd of infants' stools is the most demonstrable clinical difference between raw and boiled milk. It can be produced in every infant by giving it enough raw milk, and it will promptly disappear when the milk is boiled. In feeding babies a considerable quantity of casein, as one must when using simple milk dilutions without cream, such curds are by no means infrequent. Ibrahim[3] found that on simply changing the milk from boiled to raw in the ordinary mixtures of ten of his babies the hard curds appeared in three. Their incidence among different clinicians with the same material is directly dependent on the amount of raw casein they give.

These curds are nearly always accompanied by other evidences of indigestion, especially diarrhea. Exceptionally they are found embedded, like seeds, in an apparently normal or nearly normal movement, but even then they usually represent a state of unstable equilibrium; either they tend to disappear or they increase and the stools become dyspeptic. Whether these curds are the result of some other factor in raw milk that produces dyspeptic symptoms, or whether they themselves mechanically produce these symptoms remains to be demonstrated. The fact remains that they occur on raw milk and are accompanied by indigestion, and that they disappear, always, and with them the indigestion when the milk is boiled.

These curds can occur, apparently (Ibrahim,[3] Courtney[7]) on boiled milk in a much attenuated form. This in no way lessens their significance, clinically, as a raw milk phenomenon, for in several years of search I have only once seen fine thread-like hard curds on boiled milk. That they may occur in small form in diarrheas with rapid peristalsis is quite consistent with the coagulation findings I have reported. Furthermore, one must not forget the possibility of error in the kitchen, or the fact that "boiling" is a term capable of varying interpretations, and that the difference in temperature between milk just beginning to simmer and milk welling up actively is from 20 to 30 F., and that the longer the "boiling" the more marked the influence on coagulation.

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[7] Courtney, Angelina M.: Studies on Infant Nutrition. II. The Hard or Casein Curds in Infants' Stools, Am. Jour. Dis. Child., January, 1912, p. 1.

2. Diarrhea and dyspepsia. It is a time-honored empiricism that babies with diarrhea, or with any gastro-intestinal disturbance accompanied by diarrhea, and during convalescence from diarrhea, stand boiled milk much better than raw milk. That raw milk will cause diarrhea and dyspeptic stools, and that boiled milk will cure the condition are likewise matters of common observation. In making hard curds experimentally in babies, as recorded in my former paper, indigestion with diarrhea occurred regularly whenever I gave a baby enough raw milk to produce a good output of curds, and quite as regularly there was a prompt return to normal when the milk was boiled. The question rather forces itself on us whether the proverbial constipation from boiled milk is not due to the fact that boiled milk is more readily digested and completely assimilated than raw milk.

3. Vomiting. Here again the evidence is quite positive that many cases of vomiting when raw milk is fed are promptly relieved, as one might expect theoretically, when the milk is boiled or citrated. It is evident that raw milk is peculiarly contra-indicated in the vomiting of pyloric stenosis.

4. Colic and discomfort are among the most manifest and frequent symptoms arising from the use of raw milk. We are all familiar with the fact that a great many babies that are in constant distress, either having a great deal of colic, or crying almost constantly when awake and sleeping restlessly and brokenly, are promptly made comfortable when their food is changed from a raw milk to a boiled or citrated milk, or, what is still more striking, to a condensed milk, either liquid or powdered. If babies could talk they could unfold many a tale of their sufferings in trying to digest a strictly modern scientific, raw-milk formula and of their immediate relief on receiving a very unscientific food from a tin can.

A surgeon of my acquaintance is accustomed to drink about 20 ounces of milk at bedtime. When he takes it boiled he is perfectly comfortable; when he takes it raw he has an uncomfortable night and a diarrhea the next day. Few adults drink so much milk at a time and it is impossible to estimate how frequent such disturbances would occur if they did. The baby, on the other hand, with its far greater proneness to colic and diarrhea, takes six or seven such feedings a day instead of one.

If time permitted, an abundance of clinical evidence could be presented to show how frequent all of these symptoms are when raw milk is fed to an infant, and how often they disappear when the milk is boiled.

The disturbances that I have just enumerated are all of a purely digestive, and not of a metabolic or bacterial nature. In other words, raw milk often produces an indigestion that is relieved when the patient takes boiled milk. Whether this is due alone to the difference in coagulation or to some other difference between raw and boiled milk remains to be determined. The fact that boiled and citrated milk are peculiarly alike in their effect on digestion, though they have nothing else in common except the fact that in them the coagulation of casein is inhibited, would lead one to think that the determining factor in raw-milk dyspepsia is the nature of the coagulum.

CASEIN DIGESTION

This leads, much as one would like to avoid it, directly to the old question, that like Banquo's ghost "will not down," Is the casein of cow's milk difficult to st by the baby? It is interesting, in the light of these newer observations on raw and boiled milk, to review how this question has been answered in various places and at various times.

Biedert[8] himself, the first great exponent of the difficulty of digestion of the casein of cow's milk, was also the great champion of the protein origin of the curds in infants' stools. That Biedert used raw milk to an extent sufficient to make himself familiar with the "hard tough curds" of our later literature can hardly be doubted when we read his description of *weissbräunlich-gelbliche Brocken und Knollen* that occur with "poor casein digestion." It is interesting to note that he recommended as curative three foods for which Czerny took him severely to task because of their apparent diversity; ramogen (a German proprietary condensed milk), breast-milk and buttermilk, three foods that have, however, one thing in common that now again seems rational enough—they all form a very fine curd in the stomach.

The later German pediatricians with few exceptions came to the conclusion, and correctly so, that the casein of cow's milk produced no recognizable clinical disturbance in their experience, an experience practically limited to boiled milk. If the German pediatricians had used raw milk, this whole question would not so long have seemed so puzzling; nor would it have been answered so positively in the negative.

In England the casein of cow's milk is considered a serious disturber in infant-feeding, but it really gives the Englishman no trouble because he uses sodium citrate to produce a fine curd.

The French pediatrician likewise has no trouble with the casein of cow's milk; in fact, he rather likes undiluted whole milk for his babies, but he lays more stress than any one else on *lait stérilisé*, even though he puts the emphasis on the sterilization rather than on the inhibition in coagulation. It is interesting that almost nowhere else than in France has the idea of using undiluted milk in feeding young infants found any favor, and in France the milk is always boiled, and to some extent in England where it is citrated.

In this country, where some of us use raw milk, some boiled milk, some both and some neither, our ideas have clashed. In using low protein, high fat, raw-milk mixtures the casein gives comparatively little trouble. With simple whole-milk mixtures the high casein is apt to make trouble unless the milk is boiled or otherwise modified. It is again an interesting fact that Jacobi, who has always used simple milk mixtures, notably 1 : 1 mixtures, has also always boiled his milk, and has used cereal waters as diluents; and in the stormy controversies that have centered about this subject, Jacobi for nearly half a century has stood out alone and unmoved as a rock.

Our own experience at Northwestern University is not without interest in this connection. Our departure from the percentage system, in which we rarely encountered "hard curds," to simple diluted whole-milk mixtures was accompanied in a great measure by a change to boiling the milk. This led us, too, to believe that there was "no clinical picture that we could recognize as casein indigestion." A few attempts to feed raw fat-free milk during the skim-milk epoch when "hard curds" that were evidently casein curds gained their greates ascendency quickly showed us that our conclusion d not apply to raw milk. Of boiled milk it was as tr as ever. It seems to me that we are justified in answ ing this whole question, in the light of our present knowledge, by saying that the difficulty that the baby encounters in digesting cow's milk casein gives rise to recognizable symptoms only when the milk is fed raw.

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[8] Biedert, P.: Die Kinderernährung im Säuglingsalter, F nand Enke, Stuttgart, 1905, p. 225.

The digestive disturbances caused by the casein of raw milk, as here interpreted, are of course wholly distinct from those serious derangements of digestion and metabolism of the fat, the carbohydrates and the whey salts with which we have become so familiar through the works of Czerny and Finkelstein and their schools. Neither have they anything to do with bacterial activity. The questions further of transmission of disease through raw milk, and its influence on the intestinal flora and other similar considerations, lie beyond the scope of this discussion.

EFFECT OF BOILING MILK

I can hardly conclude without a brief consideration of whether boiling makes milk a less valuable or even a harmful food, especially to the infant. This consideration naturally includes four points:

1. Boiling changes practically every constituent of milk and many of its properties. Czerny[5] enumerates eleven changes and yet favors boiled milk, as does nearly every German and French pediatrician. An exhaustive analysis of the whole subject has recently appeared by an English student, Lane-Claypon,[9] who sums up the whole matter in the end by saying that "such small differences as have been found in the nutritive value of raw and boiled milk have been in favor of boiled milk." While this method of studying the subject is not of great value, nevertheless one must admit that there is not one particle of real evidence that babies in general do less well on boiled than on raw milk.

2. Hardly a single modern text-book in English, German or French even mentions boiled milk as a factor in producing rickets, and the whole question would long ago have died a natural death but for the alderman and the philanthropist.

3. Scurvy, that rare, easily recognizable and promptly curable condition, is probably and undeservedly more responsible than anything else for the present strong prejudice against heating milk. The fact that scurvy is commonly associated with the prolonged use of a dead food has led us to blame all dead foods, without careful discrimination as to the nature of the food in other respects. The German and French writers do not consider boiled milk an important factor, but rather conserved and canned foods, or milk boiled for a long time, and even treat scurvy with milk that has been boiled only a short time.[10] There is furthermore so much evidence that scurvy occurs only in children with a peculiar predisposition to the disease that this may indeed be the important factor. The fact that boiled milk is not so important a factor in the etiology of scurvy as are other things is shown strikingly in the fact that scurvy is, if anything, less prevalent in Germany, and much less in France, than with us. While this may be due in part, or wholly, to the alarming popularity in this country of condensed and evaporated milk infant foods, nevertheless the French writers, especially, are unanimous in saying that they do not see scurvy in infants fed on boiled milk. I will quote only one out of many that might be quoted. Anderodias[11] says:

> In the consultations for nurslings in which we feed sterilized milk, as in those of Budin, Variot and Maygrier, one has yet to see an infant with scurvy; while abroad, in England, and in America especially, where laboratory milk is commonly employed, the cases of scurvy are very frequent.

4. Perhaps the most wide-spread objection to boiled milk is constipation. While mothers are much concerned about constipation, the physician has rather a friendly feeling toward it, and in fact often considers it, as compared with diarrhea, rather a domestic than a medical problem.

I cannot refrain from quoting at this point the impressive words of one of the greatest French masters. Budin,[12] in 1905, after years of extensive experience with undiluted sterilized milk, says:

> So-called whole milk dyspepsia is absolutely unknown to us. . . . Neither do we encounter rickets. . . . Since all of our milk is sterilized we see practically no manifestations of tuberculosis. As to scurvy, concerning which so much has been said in recent times, we have up to the present seen not a single case.

CONCLUSIONS

I wish to emphasize the fact that I am not advocating the use of boiled milk, or of raw milk as a routine measure, but I believe that each has its indications. I have endeavored to show that raw milk and boiled milk are clinically very different foods; that the most striking difference between them as shown experimentally is in their reaction to rennin; that the casein of raw milk, unless modified so that it will not form hard, large, coagula offers serious difficulties in digestion that are not present in boiled milk; and lastly that these differences between raw and boiled milk should always be borne in mind in comparing clinical, therapeutic and experimental results in infant-feeding and elsewhere.

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[9] Lane-Claypon, Janet E.: Report to the Local Government Board on the Available Data in Regard to the Value of Boiled Milk as a Food for Infants and Young Animals, New Series No. 63, Darling and Son, Ltd., Bacon St., E., London, 1912, pp. 60.

[10] Since this article was put in type I have seen one case of scurvy in an infant of 9 months with the most marked involvement of the gums that I have ever seen. By feeding it undiluted whole milk boiled for five minutes, and without using fruit juices, etc., the child made just as prompt recovery as I would have expected with the employment of all the usual antiscorbutic measures.

[11] Anderodias, J.: La Pratique des Maladies des Enfants, J. B. Baillière et Fils, 19, Rue Hautefeuille, 19, Paris, 1909, i, 315.

[12] Budin, Pierre: Manual Pratique d'Allaitement, Hygiène du Nourrisson, Octavo Doin, 8 Place de l'Odéon, 8, Paris, 1905, p. 162.

THE ETIOLOGY AND TREATMENT OF ACNE *

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The growing tendency toward the injection of various vaccines in the treatment of acne gives rise to the suggestion that current notions concerning the etiology and pathology of this common ailment are more or less vague. The subject of this paper has been chosen not only with the purpose of reviewing some of our knowledge of the causes of acne but more particularly to inquire how far our methods of treatment coincide with that knowledge.

What are the known facts as to the causes of acne? First of all, it is a disease of adolescence showing selective preference for neither sex. It is furthermore associated with excessive sebaceous secretion. When we consider the fact that every case of acne is preceded and accompanied by an exaggerated sebaceous flux we are apt to believe that in this condition of seborrhea is to

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* Read before the San Francisco County Medical Society, Sept. 3, 1912.

be found the alpha and omega of our etiologic knowledge. But though every one with acne has seborrhea, not every one with seborrhea has acne, for one seldom sees acne in subjects over 30 years of age, while seborrhea is seen at any age. It is therefore apparent that, however important the bacteriologic element may be, there are here, as in most bacterial diseases, other considerations to be weighed besides the mere presence of a microorganism.

BACTERIOLOGY OF ACNE

Let us first, however, pass by the attendant conditions which may be necessary for the production of acne lesions and consider only the bacteriologic flora of the disease.

One ordinarily thinks of acne lesions as papules and pustules; but the prime eruptive element is the comedo which precedes them, and more important still is the preeruptive seborrheic filament which may be expressed from sebaceous ducts and which contains numberless microbacilli—the microbacilli of seborrhea of Sabouraud or the *Bacillus acnes* of Gilchrist. These filaments are simply potential acne lesions, for it is only when an occlusion takes place that the comedo and its consecutive lesions develop. It is the application of the ordinary surgical principle of drainage, for it has been noted that with excessive degrees of sebaceous flow fewer comedones are to be found. Even after occlusion has taken place and the comedo formed, many lesions remain sluggishly as such, never apparently showing other organisms than the microbacillus of seborrhea.

When we examine the pustular lesions which supervene we find in smears not only the microbacilli but often various forms of cocci which do not appear to be of the virulence of pyogenic staphylococci. The problem that now arises is as to which organism is responsible for the pus formation. A convenient working hypothesis adopted by many has been to regard the microbacillus as the cause of the comedo and to say that this, secondarily infected with pyogenic cocci, explains the pustules. Against this hypothesis comes the testimony of Gilchrist,[1] Fleming[2] and other capable workers that in a considerable percentage of cases smears have shown and cultures yielded nothing but the microbacillus. Other strong testimony, for instance, the exacerbations in pustular acne after the injection of acne vaccine, has also been adduced to show that *B. acnes* is a pus-producing organism.

Sabouraud,[3] however, while readily conceding that acne pustules exist in which only the microbacilli are found, points out that the staphylococci of gray cultures disappear from the suppuration of acne with remarkable rapidity. A pustule several days old shows no longer free staphylococci, the last visible cocci one can see at all being engulfed by the polynuclear leukocytes. Several days later these last surviving staphylococci can be demonstrated by cultures after the microscopic examination will not be able to disclose them. In general an ordinary acne pustule will remain sterile to culture after fifteen days and if the culture is made on special mediums for the microbacilli nothing but microbacilli will be obtained. The microbacillus remains for a longer time demonstrable than the staphylococcus. Whitfield,[4] also, in combating the contention that the microbacillus causes the suppuration of acne, states that if we accept the view of the pathogenicity of this organism when we find it in some non-inflamed comedones as well as in some actively inflamed ones, we must say that it is pathogenic in some lesions rather than pathogenic in some persons. In support of this he cites a case in which treatment with staphylococcus vaccine cleared up all the pustules, leaving only a face studded with non-inflammatory comedones.

At a later date Western,[5] in attributing to Whitfield the belief that seborrhea is caused by some functional disorder independent of the microbacillus, stated that Whitfield supports this view by the declaration that seborrhea is in black races a protective function against excessive desiccation of the skin by the sun's rays and that it occurs without any infection of the skin with the acne bacillus. He argues further that the age of acne vulgaris, puberty, which is so commonly the age of acne vulgaris, is an age when vasomotor changes and changes in various glandular tissues are taking place, and that it would be feasible to suppose that the sebaceous glands should partake in this development and in some cases hypersecrete.

From this Western assumes that acne bacilli are merely accidental or casual dwellers in the seborrheic skin, having nothing to do with the overproduction of sebaceous material. In the evolution of the comedo of acne, however, he attributes the formation of the horny portion to the influence of the bacilli by their mere mechanical presence or possibly through their toxins.

Concerning this one organism, the microbacillus, we may choose any one of the following beliefs, all of which have arguments in their favor:

1. It has nothing to do with the production of seborrhea or acne.
2. It has everything to do with the production of seborrhea and acne.
3. It has everything to do with the production of seborrhea and nothing to do with the suppuration of acne.
4. It has everything to do with the production of seborrhea and something to do with the suppuration of acne; in other words, it presents various forms, some of which are pyogenic and some of which are not.

While from the strictly experimental point of view the results of Gilchrist's work would urge the acceptance of the microbacillus as the cause of suppurative lesions, the practical question arises as to whether the treatment with acne vaccine alone gives superior results to that with staphylococci or mixed vaccines, and if so whether treatment with acne vaccine ameliorates the various dermatoses in which seborrhea is a dominant factor. While some workers report fair results in acne, no extensive list of successes has come to my notice in respect to the various seborrheic affections.

If we accept the doctrine that the acne bacillus is the sole cause of acne, we would next be concerned with the staphylococci which are so often encountered in acne lesions that some effort must be made to recognize the part they play.

Smith[6] of Toronto divides acne bacteriologically into three classes, namely:

1. Those due to the acne bacillus.
2. Those due to the acne bacillus and *Staphylococcus albus*, both organisms being present in large numbers.
3. Those due to *S. albus* with practically no acne bacilli present.

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[1] Gilchrist: Johns Hopkins Hosp. Rep., ix, 409; Jour. Cutan. Dis., November, 1910. See also general discussion.

[2] Fleming: Lancet, London, 1909, i, 1035.

[3] Sabouraud: Séborrhée, Acnés, Calvitie, Paris, 1902.

[4] Whitfield: Lancet, London, 1909, i, 1207.

[5] Western: Brit. Jour. Dermatol., xxii.

[6] Smith, D. King: Jour. Cutan. Dis., August, 1911.

He goes further and associates each of these classes with a certain type of lesion. In the first class comedones, papules and papulo-pustules are the chief lesions. In the second class are papulo-pustules and pustules, and in the third class deep-seated pustules with marked scarring. This would impress one as being rather schematic, but Smith states that in a certain proportion of cases these sharp lines of demarcation cannot be drawn.

We find then two distinct points of view with reference to the part played by the staphylococci. The one attributes only a secondary etiologic importance to them and totally ignores them in treatment, while the other gives them equal importance with the acne bacilli.

Not only have we to contend with two distinct organisms but we are confronted with subvarieties of each of these.

Südmersen and Thompson[7] have noted differences in the cultural behavior of different strains of the acne bacilli, and Hunt, working at St. George's Hospital, London, has demonstrated corresponding variations as to different strains of staphylococci from acne lesions. Varney[8] has described a micrococcus differing from the *Staphylococcus albus,* which he has found in acne-like lesions. Cedercreutz[9] has described a polymorphic coccus in which diverse forms were due to varying culture mediums and the passage through different animals. The fact that variable forms exist among both acne bacilli and staphylococci, added to the uncertainty that exists n many cases as to which of the two organisms is esponsible for the lesions, at once suggests the thought hat the only logical procedure is the use of autogenous vaccines in treatment. Men of large experience, however, obtain apparently as good results from stock as rom autogenous vaccines. This would seem to indicate hat even though there may be variations as to morphoogic characters and cultural behavior, suspensions of he different forms are as one in their therapeutic powers.

These apparent contradictions are given prominence at this time because in our discussion of the treatment of acne the question of vaccines will inevitably arise.

CAUSES OF ACNE

Before taking up the subject of treatment let us consider briefly some of the predisposing causes. Besides the adolescent age and the increased pilosebaceous activity which is physiologic at that period, such general states as anemia and chlorosis are often undoubted predisposing causes. In markedly depraved states acne of more pronounced pustular and indurated types is often observed. Derangements of the circulation are so often seen in subjects of acne as to make their connection with the causes seem quite plausible. Frequently the patient exhibits a thick skin and sluggish circulation. At times local circulatory disturbances are brought about directly by cold winds and irritating substances, while at other times the disturbance is produced reflexly by digestive or pelvic disturbances. The local hyperemia which follows the ingestion of certain highly seasoned foods as well as tea, coffee and alcoholic drinks is a commonplace example of the method whereby the digestive apparatus contributes to the formation of acne, while the great number of female subjects who show lesions only at the catamenia, or whose eruptions show marked exacerbations at that time, argues strongly for the fact that pelvic disturbance is a contributing cause to be reckoned with. An observation which may easily be confirmed is that the localization of acne on the chin of a young woman indicates pelvic trouble, while if it specially favors the regions about the nose and forehead it more probably results from digestive disturbance.

Our treatment of acne is bound to depend on what view we take of the etiology of the disease. Unless we have some definite working basis our efforts will be feeble, desultory and ineffective.

A plausible explanation of the events leading up to the acne pustule would seem to be about as follows: Along with the increased activity of the pilosebaceous system there is a corresponding augmentation in the process of keratinization, particularly in those portions of the skin most richly supplied with sebaceous glands. This activity is so great as to produce an occlusion of many ducts and the retention of degenerating epithelial cells and sebaceous material which go to make up the comedo. We may assume that all the comedones contain acne bacilli and some of them cocci. Papules and pustules supervene.

TREATMENT

The task before us is to effect the disappearance of the existing lesions and to prevent the occurrence of new ones.

Treatment may be divided into two classes, general and local, each of which is subdivided as follows:

1. General treatment.
    A. Symptomatic: Correction of digestive, pelvic, circulatory disturbance, etc.
    B. Specific: Vaccine therapy.
2. Local treatment.
    A. Surgical:
        a. Expression of comedo.
        b. Incision of pustules.
        c. Curettage.
    B. Chemical:
        a. Antiseptic.
        b. Keratolytic.
    C. Electrical:
        a. *X*-ray.
        b. High-frequency.
    D. Mechanical.

As to general treatment of a symptomatic character there is no need for debate. Theoretically every one recognizes the necessity of correcting constipation, anemia and various general ills, no matter how pronounced the view held concerning local or specific general treatment.

The question of diet invariably enters into every discussion of the treatment of acne. While a proper diet has its advantages in acne, the same thing holds true in absolute health. Without attempting to minimize the necessity of careful supervision of the digestive functions I cannot help holding the belief that there is no direct specific connection between certain articles of food and acne lesions. The notion so often implied that a glass of milk, a butter-ball or a chocolate drop will cause an efflorescence of acne seems to me to be not at all warranted. The articles of food which preferably should be interdicted are those which cause vasomotor disturbances expressed as reflex hyperemias. Among these tea, coffee, alcohol, highly seasoned foods, condiments, gravies and the like are particularly to be mentioned.

Fats, sweets and starches would appear from my observation to be harmful only when taken in such excess as to cause digestive disturbance or in persons who have a special incapacity to assimilate them. In the treatment of acne, as in most diseases, the injunction to treat the patient as well as the disease is well founded.

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[7] Südmersen and Thompson: Jour. Path. and Bacteriol., xiv.

[8] Varney: Jour. Cutan. Dis., February, 1912.

[9] Cedercreutz: Quoted in MacLeod's Handbook of the Pathology of the Skin, London, 1902.

Now as to the specific treatment of acne with vaccines: The most that is claimed for them is that they effect cures in a certain percentage of cases. Even then they are preferably to be employed in connection with other methods. This is not an argument against their use, however, as anything which contributes to successful treatment is to be welcomed. But it is just this point which needs dissemination. It seems an easy and obvious procedure to inject a suspension of bacteria and await results, but one is assuredly predestined to disappointment in these cases. Such good results as are obtained are reported for the most part by workers who select their cases carefully, who follow up the injections at well-judged intervals and who use appropriate adjuvants to this treatment: in fine, by those who, by repeated and painstaking observations, have developed an effective technic. I would venture the opinion that in relatively few cases is acne cured by vaccines alone.

There are certain difficulties and objections connected with the treatment by vaccines. In the first place it is not by any means easy to apprehend the offending organism by clinical appearances. In a series of smears and cultures made by me I was constantly surprised at finding a preponderance of acne bacilli when I confidently expected cocci and vice versa. This point is perhaps met by those who rely on the use of acne vaccine alone on the ground that the primary infection is with the acne bacillus and that in the absence of such infection the cocci are harmless. The objection that there are varying strains of acne bacilli and cocci is also met by the practical answer that stock vaccines are usually as potent as autogenous ones.

A difficulty to one who has not already developed a satisfactory technic is the determination of the dose of acne bacilli. Gilchrist, who uses chiefly acne bacillus suspensions, formerly used small doses, as 5,000,000, on the ground that larger doses caused exacerbations. In a more recent discussion the remark is attributed to him that larger doses, as 100,000,000, are more effective, and that he has found the small doses to give rise to anaphylactic reaction. The majority of writers, however, still use the smaller doses.

If the sheath of the follicle which prevents further invasion of bacteria also acts as a barrier to the opsonized blood, this may be offset, as Engman[10] has suggested, by incision, manipulation of the walls of the cavity and a cupping apparatus. It may well be that this explains why acne vaccine is sometimes effective in acne and not in the group of seborrheic dermatoses in which the same organism is constantly found but in which these adjuvants are not used. Otherwise we must believe that the real effect is produced by the incision, evacuation and cupping of the lesions. Some writers report patients cured with vaccines after such surgical treatment has been practiced by competent physicians. On the other hand many other patients have been cured by local surgical and medical treatment after the unsuccessful use of vaccines.

The element of time in effecting a cure is also to be considered. Most reports of successes allow from six to nine months and then caution against relapses. My personal experience with other methods leads me to expect a great improvement in one or two months and a practical cure within six months.

What seems to be the most vital objection to the vaccine treatment is that there are more important underlying factors than the mere surface manifestations which reliance on vaccines often influences one to hold too lightly. A system of treatment which neglects the fundamentals cannot be said to rest on a very secure foundation.

The local treatment of acne may be conveniently discussed under the subtitles: surgical, chemical, electrical and mechanical.

Surgical treatment includes the expression of comedones, incision of pustules, and curettage of the thick, indolent skin which is studded with blackheads.

Chemical treatment comprehends the use of such keratolytic and antiseptic agents as resorcin and sulphur. These act selectively on the epithelial cells, destroying the keratosic plugs which occlude the follicles and reestablish drainage, besides having germicidal properties. As a local application I prefer the following lotion:

℞
Zinci sulphatis ....
Potassae sulphuratae[11] ....āā ℨi
Sulphuris precipitati .... ℥iv
Aquae ....
M. Sig.: Apply at night.

Electrical treatment has its advocates. The x-ray may be used with two ends in view: first, to increase the blood-supply to the part and improve resistance, or second, to cause an atrophy of the sebaceous glands with attendant diminution of function. The high-frequency current is often effective in reducing the induration of nodular acne by its local influence on the circulation.

Mechanical treatment is a term used to include the process of expressive massage or local manipulation designed to facilitate the drainage of the sebaceous ducts.

From these general principles may be evolved a special method which will be of service in the average case of acne.

I am personally convinced that the keynote to successful treatment lies in keeping open the orifices of the follicles. Whether an occlusion be due to the presence of bacteria or to the excessive proliferation of epidermal cells, which is a physiologic process at the acne age, the fact remains that the establishment of drainage is as vital an indication here as the incision of an abscess is in general. Once the comedo is produced, whether the inflammatory papule or pustule results from one bacterium or more is really beside the question, for if we can restore the potency of the ducts—in other words reestablish drainage—there will be no acne lesion.

In maintaining this open condition of the follicles nothing gives results superior to resorcin. In from 10 to 15 per cent. paste this causes an almost imperceptible superficial exfoliation. If the skin is thick, sluggish and oily, as is usually the case, preliminary washing with the tincture of green soap is of service. The use of hot water, recommended by many, is particularly to be deprecated from the point of view of cosmetic results, since it serves to relax further a skin already deficient in tone and thereby contributes to the formation of enlarged pores. While warm water may be used after incising pustules, to encourage bleeding, the regular use of cold water in washing seems preferable.

When the existing pustules are cur[illegible] and the superficial epithelial cells some[illegible] by resorcin the dermal curet will be [illegible] ill be that the comedones are more easily expressed by one of the many suitable instruments offered for that purpose.

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[10] Engman: Jour. Cutan. Dis., November, 1910.

[11] See New and Nono[illegible]

In most instances the improvement from these local measures alone is striking. Sulphur lotions may be added with advantage, and any corrective measures of a general nature will undoubtedly aid in maintaining the ground gained. It is here that all attempts at generalization fail, for success comes largely with the skill with which the individual problem is met. Exercise, bathing, massage of the body, or anything which will improve the general health, equalize the circulation and increase the tone of the skin is helpful.

CONCLUSIONS

Bacteria do not figure in the production of acne unless the sebaceous ducts are occluded.

The bacteriologic flora of acne is of no importance except in treatment by vaccines, and vaccine treatment will not be necessary when we are able to provide for the drainage of the ducts.

The logical treatment of acne is local treatment aimed at the proper drainage of the sebaceous ducts, and general treatment that will develop increased tone in the skin.

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TRANSDUODENAL LAVAGE

TREATMENT AND REPORT OF SOME CASES OF CHRONIC DISEASES

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Transduodenal lavage is to the small intestine what enema is to the colon; it excels an enema in its indirect effects in ailments which have no apparent relation to the intestinal tract..

Since my first paper on the subject,[1] I have somewhat modified the technic, which will be described in detail further on.

The aim is to bridge the stomach, so that the irrigating fluid does not trickle into the stomach but directly into the bowel; vomiting will thus be avoided. A rubber tube is introduced into the duodenum; to judge its position some secretion is aspirated and examined as to its origin.

The outfit required consists of a one-sixteenth-inch thin rubber duodenal tube[2] with perforations near, and an olive at, the end, an aspirating bottle, a suction-pump or an ordinary syringe, an irrigator and rubber connections, and, if the swallowing of the tube is difficult, a thin wire or ureteral catheter, which fits into the hollow stem of the olive, to serve as an introductor.

TECHNIC

The patient, with stomach empty, swallows the tube, lies down on his right side on a table and drinks a tumblerful of water. Gravity brings the olive near the pylorus, and peristalsis soon pushes it through along with the water. Connections are then made between tube and aspirating bottle, and between bottle and suction apparatus. Suction soon yields some diluted secretion; examination of this will show whether the tube is in the duodenum or is still in the stomach. In deciding this question the litmus-paper test has been found unreliable, for regurgitation of duodenal contents into the stomach may give a bluish tinge to the test-paper; on the other hand, the duodenum may have been reached and the red paper not have turned blue, because an acid reaction in the upper part of the small bowel is not infrequent. Fortunately, the physical appearance of the aspirated fluid is sufficient to remove doubt, as many tests have shown. A slight stringiness or tenaciousness indicates its intestinal origin except in cases of gastric catarrh. But if the patient has retched while swallowing the tube, some duodenal contents are usually regurgitated into the stomach. If this is suspected, I aspirate as much fluid as can be obtained, let the patient drink more water and aspirate again. This may be repeated once or twice. If the aspirated fluid remains slightly stringy or looks like water and then turns stringy again, which indicates that the olive has just slipped through the pylorus and into duodenal secretion, it is certain that the tube has reached the bowel. That this test is reliable is proved by the fact that on tapping the stomach region, after finishing the lavage, there is no splashing sound of fluid in the stomach.

In undue spasm from hyperesthesia this procedure has the effect of a gastric lavage in that it helps to open the pylorus; in gastric catarrh it removes the mucus, unless too tenacious, and after the water has returned clear, renewed stringiness is a sign that the duodenum is reached.

When the olive is in the right place, lavage may be begun. The duodenal tube is disconnected from the rest of the apparatus and attached to an ordinary irrigator or rubber bag containing about 2,000 c.c. of irrigating fluid. The patient turns on his back and from 1,000 to 1,250 c.c. of fluid are allowed to trickle into the bowel. About ten minutes' time is enough for this quantity to run in and to allow peristalsis to push it gradually onward, so that there will be no distention of any part of the bowel. To make certain of this, the flow can be interrupted once or twice by a few minutes' wait. Light abdominal massage or vibration will stimulate peristalsis, if sluggish. After enough fluid has run in—1,000 c.c. are easily borne—the tube is gently withdrawn and the patient rests a while.

The case will determine the kind of fluid it is best to use. In nervous disorders, general malaise, anemia, rheumatism, indicanuria—in short, whenever it is desired to cleanse the bowels thoroughly—I use normal saline (9 gm. to 1,000 c.c.) at body temperature. To flush out the kidneys, plain distilled water gives a very copious diuresis. In icterus and when fat digestion is impaired the addition of 0.5 gm. pure Castile soap to 1,000 c.c. of saline is beneficial. Of late I have restricted the use of soap to these conditions, as it seems to cause a slight nausea or headache at times. To withdraw fluid from the body a stronger solution than normal saline will be found to do the work. I believe that the addition of astringents to the saline, in catarrhal enteritis, and of quinin in amebic dysentery, will be found beneficial, though I do not speak from experience in these ailments.

By placing near the mouth a glass tube containing a thermometer, the temperature of the fluid can be so regulated that it enters the bowel at body temperature. Respiration, temperature, pulse and tension remain practically unchanged. An increase of the fluid temperature above that of the body will cause a corresponding increase in pulse and tension. This may be used to advantage in some conditions; but, of course, it should be avoided in chronic nephritis and similar ailments, in which conditions the fluid should be used at body temperature. Lavage should not be given in aortic aneurysm or in severe heart affections. In my experience, no ill effects have followed the treatment. The bowels usually move freely within one or two hours after lavage.

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[1] Jutte, M. E.: Transduodenal Lavage: A New Method in the Treatment of Chronic Ailments, with Report of Results in Cases of Asthma and Pernicious Anemia, New York Med. Jour., March 16, 1912.

[2] Author's modification of the Bullinger-Oefele tube, which allows of manual introduction.

The treatment is easily borne. It is not nearly so unpleasant as the passing of the stomach-tube. The patient may at first object to swallowing the tube, but he soon becomes used to the treatment; it is invariably followed by a feeling of buoyancy and well-being. This is probably due to the flushing out of intestinal toxins.

The following cases will give an idea of the scope of the treatment.

Case 1.—Mrs. D., aged 32, had chronic icterus, with indefinite but at times severe abdominal pain, of three years' standing. The skin was jaundiced with yellowish tint to sclerae. There was no indican and much flatulence. The patient had been treated by a number of physicians who ascribed various causes for her troubles. She received 1,000 c.c. soap-saline and felt much relieved after the first lavage; had six treatments, at intervals of one week. The color of skin and sclerae is normal. She is cured.

Case 2.—Mr. H., aged 60, showed an extreme degree of indicanuria and trace of albumin; both disappeared after about six lavages, at intervals of two days. Used 1,250 c.c. soap-saline. A slight recurrence of indican after about eight to ten weeks yielded promptly to repeated irrigation.

Case 3.—Dr. S., aged 28, had seborrhea of the face of six years' standing; had taken many kinds of treatment. Skin itched and felt like parchment; was very disagreeable. Indicanuria was marked; stools very offensive but normal in frequency. Patient was in good health otherwise. Ten treatments were given within a fortnight; 1,000 c.c. soap-saline or plain saline were used. After second or third lavage, symptoms disappeared and have not returned.

Case 4.—Mr. Y., aged 50, had spasms of the larynx, especially during the night and woke up with a feeling of suffocation. Patient was small but strongly built; tympanitic; no indican. Neurotic with vague symptoms, best expressed by the term "biliousness." One cleansing of bowel by transduodenal lavage (1,000 c.c. saline) removed all trouble. The patient receives treatment once every two or three months.

Case 5.—Mrs. C., aged 50, had chronic bronchitis of nine years' standing, and frequent choking spells, especially at night; no indicanuria, but flatulence. Physical condition was otherwise good, but life a burden because of distress. I treated her once a week for two months; used 1,000 c.c. saline. Patient was better after the second treatment and well in two months, except for a little cough now and then. Because of the flatulence she was put on non-fermentative diet and asked to drink about two quarts of hot water a day; this was of great benefit.

Case 6.—Dr. V., aged 35, had chronic ulcer of duodenum with chronic cholecystitis and acute exacerbation. There was hyperacidity of the stomach and pain and tenderness in the right upper quadrant; no indican, but much flatulence. The patient felt miserable. Gall-bladder reached level of umbilicus. Patient was treated nearly every day for three weeks with transduodenal lavage and in the beginning with gastric lavage; non-fermentative diet and plenty of hot water to drink. to keep the bowels flushed out. Result was quick and satisfactory. Distress disappeared promptly. Sallow complexion changed to normal. A slight tenderness remains, but patient is in good condition otherwise. It should be mentioned that. though with difficulty, he continued to attend to his practice throughout the illness.

Case 7.—Mr. H., aged 30, had chronic gastro-enteric catarrh, with dilated stomach and relaxed intestine; flatulence; no indican; stools frequent, slimy and thin; received gastric and transduodenal lavage about twenty-four times within one year, at irregular intervals. Diet was restricted to non-fermentative food, but was not adhered to. Stools soon became formed with but little mucus. Results were very satisfactory, considering irregular attendance and disobedience to orders.

Case 8.—Miss T., aged 25, had been constipated as long as she could remember, sometimes going a week without a movement of the bowel, and never oftener than once in three days. She always had to take laxatives, was treated for two and a half months once a week, with 1,000 c.c. of saline, to which at first a little phenolphthalein or other cathartic was added. Movements soon became more frequent and regular. After the sixth or seventh treatment the patient reported having had an action every day during the past week, without the help of laxatives. The following week was less satisfactory, but from then on to the end of treatment she seldom went a day without a movement.

In recent years the subject of intestinal toxemia has met with much interest. It is not my purpose to review the literature in this short paper; a glance at the current medical journals will show the wide range of diseases, cases of which have been found to be due to excessive absorption of the products of putrefaction and fermentation.

Among these diseases are gastric and intestinal disorders, rheumatism, gout, sciatica, arthritis deformans, functional disorders of the heart, arteriosclerosis, epilepsy, asthma, Bright's disease, cirrhosis of the liver, neuroses, neuralgia, neuritis, primary and secondary anemia, skin diseases, catarrhal inflammation of the mucous membranes, eye diseases, insomnia, neurasthenia, melancholia, dementia and insanity.

Considering that so many diseases have been caused by absorption of toxins it will not be surprising that by flushing out the toxins I have had such uniformly good results as those mentioned in the above case reports and in the cases of asthma and pernicious anemia previously reported.[1]

The removal of intestinal toxemia is the only explanation of the good effects. This supports the modern views of the etiology of many chronic diseases.

Catharsis cannot do the work of lavage, as the reader knows from his experiences with colonic irrigation. By starting the lavage at the pylorus the irrigating fluid reaches every part of the intestinal canal, so that both the small and large bowel are thoroughly and effectually cleansed, and in the natural direction of peristalsis. By an occasional lavage it is easy to keep them cleansed and we may safely let Nature do the rest for the patient. With the cause of his trouble removed and with proper care he has a good chance to improve or to be cured eventually.

Those who have seen the beneficial results are convinced that in transduodenal lavage we have a useful addition to our methods, especially in the treatment of chronic diseases.

253 West Seventy-Second Street.

Lumps-and-Murmurs Diagnosis.—To discriminate between nervous troubles and local diseases requires great tact and experience on the part of the medical man, and yet without such discrimination he may fail in his mission of cure. It will not do to dismiss patients in whose bodies no signs of a definite and significant character can be discovered—that is to say, no abdominal tumor, no pulmonary mischief, no albumin—on the ground of mere nervousness. Such rough-and-ready decision I often call "lumps-and-murmurs" diagnosis. No lump, no murmur, no albumin—no disease. You will agree with me that to practice medicine successfully we must carry diagnosis to a higher degree of refinement than this.—Prof. T. Clifford Allbutt in *Clin. Jour.*

DEATH FOLLOWING THE ADMINISTRATION OF PHYLACOGEN (SCHAFER)

REPORT OF A CASE

FRANKLIN C. McLEAN, M.D.
PORTLAND, ORE.

The publicity being given Phylacogen at present, and certain claims which have been made that the administration of Phylacogen is without danger, seem to demand the publication of the following case:

History.—The patient was admitted to hospital care, May 26, 1911, with a diagnosis of articular rheumatism. At this time he stated that he had become sick May 13, following exposure to wet and cold. At that time he had pain in his right foot, with tenderness and swelling. Shortly after this his knees and his other foot became involved. He felt hot, and had sweats at times. He had been subject to similar attacks for eight years, but had had none for the past two years. He denied venereal history, and stated that he had not used alcohol in any form for two or three months, though he had previously been a heavy drinker.

Examination.—At the time of entrance the patient was a powerfully built, well-nourished man, somewhat overweight. He appeared sick and prostrated. Skin warm and moist, no enlarged glands or edema. At this time there were noted a few fine crepitant râles over the bases of the lungs anteriorly. The apex-beat was in the fifth interspace in the nipple line, and there were no murmurs. Liver and spleen were not enlarged. Knees and ankles were slightly swollen, and tender. The urine was acid in reaction, clear, specific gravity 1.020; no albumin, sugar or casts were found.

Treatment and Result.—From May 27 to June 13, the patient was kept in bed on treatment with salicylates, sodium salicylate being used internally and oil of wintergreen locally on the inflamed joints. During this time the temperature by mouth was never above 98.6, and the patient's general condition became greatly improved, though the pain in the feet and ankles improved only slightly. On June 13 it was suggested to the patient that he might derive some benefit from Schafer's Rheumatism Vaccine, which was then in the experimental stage. After having the disagreeable effects of the treatment explained to him he decided that he was willing to try the vaccine, as he was very anxious to improve. Examination on the evening of June 13 revealed no râles over the lungs. The apex was in the nipple line, and the heart tones were clear and regular, with no murmurs. The pulse was strong and regular. White blood-count was 8,800. At 7:35 p. m. 5 c.c. of Schafer's Rheumatism Vaccine, furnished by Parke, Davis and Co., was injected intravenously, as at that time was advised. At 8:05 the patient began to chill, and had a very severe chill, lasting about one hour and thirty minutes, accompanied by emesis and pain in the back. Following the chill the pulse-rate was 144, temperature 99.8, and the pulse was very weak. Stimulation seemed urgent, and was given. The patient became delirious *during the chill*, and was never perfectly rational up to the time of his death. During the remainder of the night the condition became very bad, and death seemed imminent. Emesis was frequent, the pulse was weak and rapid, breathing was labored, and the skin was cold and very cyanotic. The patient was very delirious at this time. By the following day the general condition had improved to some extent, under stimulation, but remained serious, and was practically unchanged during the next twenty-four hours. No urine was being voided, however, and measures to induce urination were unsuccessful. By the morning of June 16 the patient's condition seemed worse, and at this time he was catheterized and 2 ounces of urine withdrawn. This urine contained large quantities of albumin. Cupping was performed over the kidneys, and the urine flow increased during the day. During the next two or three days the condition seemed to improve, though the patient was still irrational, and the pulse was still rapid and weak. June 20, seven days after the injection of Schafer's vaccine, the temperature rose to 101, axillary, and the patient became actively delirious. The white blood-count at this time was 20,000, and examination revealed many subcrepitant râles over the bases of both lungs. During the next day the temperature rose to 104, and the general condition became rapidly worse. The patient died at 8:50 p. m., June 21. The immediate cause of death was assigned as "hypostatic pneumonia." During the time of practical anuria, the symptoms of emesis and hiccup were very prominent. Hiccup was practically constant, and the patient was unable to retain food or liquids. After the urine flow was reestablished these symptoms became less pronounced, and the patient seemed on the way to recovery until the pulmonary condition supervened. Cyanosis was prominent chiefly during the first twenty-four hours.

761 Lovejoy Street.

[EDITORIAL NOTE: It will be noticed that this death from Phylacogen occurred over a year ago. It is now reported because of the following facts: A certain physician to whom Dr. McLean had mentioned the death spoke of it to others, and some of these conversations were reported to Parke, Davis & Company. Thereupon the firm, under date of Jan. 9, 1913, wrote to the physician mentioned remarking that he had been reported as stating that a death had occurred from Phylacogen. The letter continues:

> "We feel quite certain that you have been misquoted and we desire to take this opportunity to acquaint you with the statements which have been attributed to yourself. No deaths occurred in ———— hospital, or anywhere else, as a direct result of the administration of Phylacogen. We feel sure that it is far from your desire to do anyone, unwittingly, an injury and that you will appreciate our having directed this matter to your attention. Yours very truly, PARKE, DAVIS & COMPANY, E. R. L."]

TRACHOMA: ITS PROPHYLAXIS AND THERAPY

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LAME DEER, MONT.

An experience of several years among the Indians west of the Mississippi, a people sorely afflicted with trachoma, living under varying geographical and climatic conditions, has demonstrated to me that it is a communicable disease, little or not at all influenced in its course, complications, sequelae and terminations by the natural factors of latitude, longitude, altitude, heat, cold, moisture or dryness.

Trachoma, as it is usually found and treated, is a chronic disease. Doubtless there are acute cases of it, but none have ever come under my observation; and in cases in which the diagnosis of acute trachoma has been made, and exhibited as such, it has thus far always been possible to show by the unmistakable hypertrophy of the fornix or tarsal conjunctiva, or both, or by the presence of scar tissue of this membrane, that the supposed acute trachoma was simply an exacerbation or an added infection, either or both of which mark the course of untreated, or even many treated cases of this malady.

The classic division of the management of trachoma into prophylactic, surgical and medical seems almost ideal. Of course the prophylaxis of trachoma is its best and most effective management, and can be accomplished only by the exercise of constant care to prevent the secretions from a trachomatous eye reaching an uninfected eye. To this end all public towels and washbasins should be abolished; in schools, almshouses and penal institutions and among other aggregations of persons, as soldiers, factory employees, miners, etc., the use of individual towels and basins should be required, or better still, individual towels with flowing water from faucets should be provided, and their use enforced.

Under the surgical treatment will be considered only the measure usual in practice of removing the contents of the granules by expression, which may be done by the use of any one of the many good expression forceps now in use, as Knapp's roller forceps, Khunt's expressor or Noyes' oval forceps. These three instruments will be found ample to meet the requirements for this procedure, in all the various manifestations of trachoma.

It has been thoroughly demonstrated that when the proper subsequent treatment is applied, all cases of trachoma improve much more rapidly after expression than if expression has been omitted. This has been shown in hundreds of cases in which one eye of a patient, in whom the trachoma appeared of the same degree of severity in both, was expressed and the other was not, but otherwise bilateral treatments were carried on in an identical manner. The eye on which expression has been used improves so rapidly that usually within a few weeks one not familiar with the history of the case would declare it to be one of unilateral trachoma or that the trachoma in the eye in which expression had not been used was of much greater severity and of longer standing than that of the other eye. So pronounced has this demonstration been that in many cases within one month the patients, uninfluenced by any suggestion, have asked to have expression used on the other eye. Also, expression should be used in all chronic trachomatous eyes in which there is a varying amount of scar tissue with a vestige of active trachoma present. In many of these cases little or no trachomatous material will be removed from the eyes, but here too a unilateral expression followed by identical bilateral treatments has amply demonstrated the advisability of the expression in all cases. In accounting for this beneficial effect, I believe that the conjunctiva and lids are improved more by the increased and quickened blood- and lymph-supply resulting from expression than by the small amount of trachomatous material removed.

After expression I formerly used ice compresses for several hours on the closed lids of these patients; but some years ago necessity prevented the use of ice compresses, and pledgets of cotton wrung from water as hot as could be borne by the patients were placed on the closed lids immediately after the expression, and changed every two minutes for about thirty minutes; invariably the patients expressed much gratification at the relief given by these hot applications; children aged from 6 to 10 pass out to play at once as soon as these applications are discontinued. As cold never gave the quick and permanent relief from the discomfort of expression that hot applications do, I have used the hot applications exclusively since, in many thousands of cases without a single case of inflammatory reaction. Of course care has been exercised to allay by appropriate measures all symptoms of an acute exacerbation or any additional infection before the expressions are done.

At the end of the application of hot pledgets, a drop of a 25 per cent. solution of argyrol, or some bland oil, may be placed in the eye.

The eye on which expression has been done almost invariably glues together for two or more mornings after this operation, and should be cleansed by having all secretion carefully wiped from the lid margins, canthi and cilia. This should be repeated as often as necessary to keep the eye clean and dry, and a drop of the oil or argyrol may be used two or three times daily if necessary to prevent the lids from gluing together. Expression has shown that in most cases gluing of the lids and increased secretion resulting from the expression, cease almost or quite as soon under the above-described method of cleansing the lids, canthi and cilia by moistened pledgets of cotton as when argyrol or oil is used; therefore I do not use these so often as formerly.

Another practice which I formerly employed was to evert, the morning following expression, the lids in which gluing together of the lids occurred, and to paint them with a 2 per cent. solution of silver nitrate, immediately neutralized by an instillation of normal salt solution; but in some instances in which the silver nitrate solution had to be omitted, the gluing together of the lids and the discomfort were less, so that now I use it only in purulent conditions which continue longer than usual or are of more than ordinary severity. I now believe that the exudate thrown out as a result of expression and as a means of repair was formerly removed by this application of the silver solution, wherefore I now omit the solution in these cases, except when it is indicated by the presence of purulency.

When the gluing together of the lids has ceased, the medical treatment of trachoma begins, and lasts until the whole conjunctiva returns to normal. This in the mildest cases requires many weeks or months; in well-developed cases months and even years; and in complicated cases, though the active trachoma may be eradicated in time, the destructive effects may and usually do remain permanently.

It is now believed that the principle on which the improvement and cure of trachoma depends is the production of an acute hyperemia, often repeated, in the conjunctiva and lids of the trachomatous eye, and repeated at daily intervals until these structures return to the normal, or as near to the normal as severity of the attack and destruction of the parts will permit. The expression of these granules is the therapeutic beginning in the production of this artificially produced hyperemia. This procedure increases the rapidity of the flow of blood and lymph in the whole conjunctiva and lids which, previous to expression, will, on careful inspection of the fornix and tarsal conjunctiva, present the appearance of a tissue in a state of passive congestion.

As soon as the acute effects of expression subside, in from five to seven days, there being no further secretion, inflammation or gluing together of the lids, they should be everted and the whole of the conjunctiva of the fornix and palpebral surfaces firmly and rather rapidly rubbed with a smooth pencil of copper sulphate. This should be done once daily to secure the maximum results, and care taken lest physical injury be added to the already present chemical irritation by the copper sulphate. In order to prevent abrasions and unnecessary irritation with the possibility of causing corneal ulcers, great care should be exercised to prevent the stick from coming into contact with the corneal epithelium. This may be accomplished by pushing the lower lid well up over the cornea after everting the upper lid, in which position it forms an efficient protective cushion to this structure. Assuming that the true principle of the treatment of trachoma is often-repeated acute hyperemia in all the conjunctiva in which there is active trachoma, the copper stick should come into contact daily with all this surface.

If a thorough expression of trachoma has been done properly, and all secretion checked before beginning the use of the stick, and if it is used gently each day and applied so as to obtain only a stimulating (hyperemic) and not a caustic effect, all or practically all the complaint of the pain will cease by the end of the sixth or seventh treatment; but to secure this happy condition, daily treatments must be made and continued. If a patient stops attending treatments after they are practically painless for a few days, he will be compelled to undergo a similar series of painful treatments before the stick ceases to cause so much pain again. It should also be noted that patients whose lids have not been expressed never throughout their entire course of treatment acquire the same degree of immunity from the pain of these applications as those whose lids have been expressed and treatment begun within a few days.

It has been observed also that trachoma patients do not do well when the eyes are flushed by lotions. No water should be put into a trachomatous eye after expression except to wash out the blood and débris of expression, unless some special reason should occur. Even while there is secretion, the result of expression, most cases are cleansed by the use of moistened pledgets of cotton, and not by flushing the eyes copiously with various solutions. To keep the eye dry, apply copper sulphate as just described. This will insure the maximum improvement in the treatment of trachoma.

Copper sulphate should never be used when there is a corneal ulcer, an inflammation, iritis or an acute exacerbation, but measures to allay these conditions should at once be instituted. As soon as relief is obtained, often repeated hyperemias should be begun and continued.

If the stick has been used too vigorously (caustic), the following day the conjunctiva over the area thus treated will present the condition of a bluish-white pellicle of varying thickness and extent, depending on the too caustic action of the stick. This pellicle may be noted not only by its color and location, but also by the fact that it will roll up into shreds, curdy masses and bunches when the stick is applied again. This condition should never be produced by the use of the copper sulphate, and if found is positive evidence that the applications have been made with unnecessary and unwarranted severity, and the effect has gone beyond the therapeutic hyperemia required to bring about the cure of trachoma. In such cases the copper applications should be discontinued for a few days.

Various copper, mercury and other ointments have been used in treating trachoma, but are considered inferior to the copper sulphate stick; for by the judicious use of the stick just the proper amount of stimulation may be produced. A different degree of application is required not only in different eyes but in the varying stages of the progress in an individual eye.

The massage of the trachomatous conjunctiva by the use of a cotton wound applicator, moistened and dipped into dry boric acid powder, has been given an extensive trial, and no better results were obtained than with the copper, if as good.

A few oculists are known who evert the lids and with the index-finger of the treating hand, covered by one or two layers of sterile gauze, rub all the available and presenting conjunctiva thoroughly with a proprietary powder composed of nuclein from various glands. They claim excellent results, but apparently the only effect which this can possibly produce is that of mechanically causing the hyperemia above discussed and believed to be the chief, or only factor in curing or ameliorating trachoma.

THE SERPENT'S TOOTH IN FORMALDEHYD

WILLIAM E. MORGAN, M.D.
CHICAGO

The reckless freedom with which formaldehyd solution and its derivatives are used by hospital employees, surgeons, health boards, undertakers and food preservers leads me to call attention to the dangers attendant and to place a decided poison label on them.

There is no doubt that a personal susceptibility has much to do with the effects, but the number of unfortunates is becoming so great as to place formaldehyd at the head of the list (not excepting the *x*-rays) as an irritant to the skin and the mucous membranes, and its results are so serious as to leave those tissues peculiarly weak in resistance to other irritants.

It is a well-known fact that the venom of the bite or sting of a poisonous insect like the ant, spider, wasp or hornet is formic acid or one of its compounds, and it is also a matter of common knowledge that some persons are far more affected by the stings than others. It is therefore easy to understand why some are more susceptible than others to the pharmacal preparations which are so universally used at present.

About a year ago formaldehyd was announced as a proper ingredient for the denaturing of alcohol, the amount designated being 1 part of the 40 per cent. formaldehyd solution to 250 parts of alcohol. The result was an almost universal use of this denatured preparation for surgeons' and nurses' hand solutions and general operating-room use.

It was my misfortune in March last (ten months ago) unwittingly to use a liberal quantity of such alcohol on my hands and arms as a final wash before putting on the gloves. During the subsequent operation I felt that one of my arms was being bitten by some insect, and mentioned at the time that an ant must have found its way into the sleeve of my operating-gown. In a few moments more I felt the same sort of sting in the other arm and then several distributed stings on both hands and arms. On finishing the operation and removing gown, sleeves and gloves I found the extensor surfaces of both arms corresponding closely to the distribution of the external cutaneous nerves punctated with numerous circlets of intensely burning and itching fiery red minute papules. I jumped to the conclusion at once that I was the victim of bilateral, symmetrical herpes miliaris and for two weeks afterward considered the case as such, but failed to notice any accompanying neuralgia or other malaise.

The eruption went through stages of vesiculation, weeping, crusting, brownish pigmentation and skin thickening, but no sooner would one patch show signs of improvement than other circlets would appear and go through the same stages. Not until three or four weeks had elapsed was I informed that I was suffering from a chemical dermatitis and that it was due to formaldehyd. Even though I now knew the cause of the irritation I did not realize that I was being constantly reaffected by room fumigation. I had already been obliged to cease operating but was constantly in attendance on patients in their hospital rooms where formaldehyd was used as the universal fumigant.

Like all other chronic forms of dermatitis, the affected surfaces are peculiarly susceptible to heat and cold, alkalies and acids. Soaps made of animal fats, ointments containing animal fats like lanolin or lard, emollient preparations like cold cream and the viscid liquid preparations so universally used for chapped hands and face, are all of them intensely irritating and provocative of profanity, while the soaps made of vegetable oils and the vegetable or mineral oils themselves are very soothing.

Solutions or ointments containing lead, zinc (unless very weak), tar, oil of cade, ichthyol, the various combinations of salicylates and pyrogallates, are all beneficial temporarily but seem to be provocative of new circles of acute character at the margins of the old.

I find by conference with my associate sufferers that we all have the same experience as to susceptibility to the formaldehyd. The mere presence of the vapor in the room or in the bedding of a patient is immediately recognized by a stinging formication over the whole surface of the body, and it is especially acute on the previously affected parts, so that now in my own case it amounts to an almost insane obsession.

So many members of the medical profession have been invalidated physically, incapacitated for professional work, deprived of livelihood and rendered nervous wrecks by this peculiarly subtle and all-pervading vaporous poison that it should be relegated to the uses of the undertaker and pathologist only and then used with extreme care. If used for fumigation, the room and all its contents should be thoroughly aired for at least forty-eight hours before being again occupied. Specimens preserved in formaldehyd solutions should be kept tightly encased, and the pathologist, to avoid dangers to himself and others, should keep his jars in a room which is constantly aired and not in his general work-room. In addition to these precautions, he should always use some protection to his hands and arms when handling these specimens. Let him be as careful in the use of formaldehyd as he would with a bottle of bromin, for, once stung, repentance is useless.

In view of the fact that formaldehyd vapor is now known by experience to be so dangerously irritant not only to the skin but also to the mucous linings like the conjunctiva and nasal passages, and because its efficacy as a germicide and disinfectant is now seriously questioned by some of our best pathologists and masters of sanitation, may we not wisely discard it altogether as a means of disinfection? We know that when used in 1:1,000 dilution in water or glycerin it is a powerful germicide for some forms of bacteria, and when employed thus with great caution and by carefully feeling our way, it can be made safely useful. To apply it, however, in as strong a dilution as 1:250 in alcohol directly to the surface of the skin freshly disturbed by brush and soap is a malicious insult, and I desire to enter a decided protest against the use of alcohol denatured by so dangerous an ingredient.

Perhaps such alcohol used as a fuel in the mechanical arts might with caution be safe enough, but woe betide the mechanician with a chapped or cracked skin who should perchance spill some of it on his hands or wet them with it!

I may add in passing that I have practically exhausted the pharmacopeia and I fear have also exhausted the patience and suggestions of my medical friends in my efforts to overcome the trouble; but I feel that now I am on the right road, which is outlined as follows for the possible benefit of fellow-sufferers.

1. Avoid formaldehyd as you would a pestilence.
2. Wash the hands or affected parts not more than once a day with luke-warm water and a vegetable oil soap such as Castile. Avoid green soap made with a fish oil, or any animal oil soap. At other times use olive-oil or cottonseed oil for cleansing purposes. I have found that a little phenol (carbolic acid) added to the oil (10 minims to the ounce) keeps it free from becoming rancid and adds to its soothing qualities.
3. Apply to the affected parts two or three times daily an ointment made up of zinc oxid, 1 part, starch, 2 parts, and petrolatum, 8 parts. During the vesicular and acute stage this should be applied without friction; but after the epithelium becomes dry and the derma somewhat thickened and scaly, the ointment can be rubbed in and the zinc reduced somewhat.
4. Avoid all powders except sterilized starch, and then during the vesicular stage only.
5. Rubber gloves cannot be worn for more than from three to five minutes without producing marked irritation by reason of the confined perspiration.
6. Wear a cotton protecting sleeve or glove or both, night and day until thoroughly healed. Silk or woolen goods cannot be allowed to touch or rub the affected parts without producing irritation.

3122 South Park Avenue.

Therapeutics

ECZEMA IN INFANTS

It may be well to recall for a moment the many varieties of eczema which may occur. If it begins with burning and tingling sensations and a redness, if red points then develop over the orifices of the skin glands or hair follicles, and if the surface of the region then feels a little raised and papules develop, these later passing into vesicles which soon burst and cause an exudate. acute eczema is present. This acute inflammation of the skin may stop at almost any of the above stages, or it may go on to the formation of crusts, either dry or sticky; even a purulent exudate may occur. There is no deep ulceration in eczema, and the inflammation occurs generally in patches. This moist condition may continue for some time or dry scabs and crusts may occur.

The duration of eczema is absolutely uncertain. There is probably always a continued attempt of the skin to heal under the crusts, and then scaling or a sort of desquamation occurs with more irritation and itching of the part, although there may have been some itching in the beginning. This chronic healing and drying with more or less acute irritation may go on for months or even years, and the skin may become thickened in regions that are permanently eczematous. Such skin is not healthy, and injury to it in any way may cause a more or less deep ulceration. Among the lesions of the eczema appear more or less irritated marks due to scratching, and this scratching causes more irritation and may prevent the eczema from healing.

It has long been decided that eczema is not purely a local disease but is generally caused or influenced by the character of the food and its digestion. The relatio of eczema to indigestion in infants seems to be eve closer than in adults, as shown by Drs. Towle an Talbot[1] of Boston. As eczema is of frequent occurren in infants and often almost impossible to cure, any su gestion as to its etiology and hence the possibility of removal of the cause will be welcomed.

The investigations by these clini[illegible]ns have so shown the relationship of [illegible] ile [illegible] to indige

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1. Towle, Harvey P., [illegible] our. I. October, 1912, p. 219.

that they are justified in urging the necessity of making an examination of the stools as a routine diagnostic measure whenever troublesome eczema occurs.

Serious eczema in infants may be divided into two classes: one in which the process is acute and inflammatory, with a tendency to exudation, while the second is more or less chronic, without much exudate, but with redness and infiltration, and the skin is more or less dry, scaly and harsh. The latter form is also characterized by greater itching, while in the more acute variety the itching becomes more pronounced as the inflammation heals.

The more acute form of this eczema in infants occurs on the face and forehead, generally on both sides, and, according to Towle and Talbot, is frequently associated with indigestion of fats, and occasionally with indigestion of carbohydrates. The more chronic forms of eczema in infants they find more likely to be associated with indigestion of protein foods.

If the examination of the stools shows a large amount of undigested fat or fatty acids, the amount of fat taken with the food should be diminished. If, on the other hand, the stools show that sugar and starch are not well digested, these foods should be diminished. If the eczema is more chronic in character, the amount of protein in the food should be reduced, changed or modified.

The methods of examination of the stools are macroscopic, microscopic and chemical. The macroscopic, of course the simplest, is more or less suggestive, is fairly accurate and takes but little time. Towle and Talbot say:

> The most common fat stool is soft and contains in varying abundance soft curds which have been found to be composed of fat in the form of fatty acids or soaps. These curds look like small particles of undigested milk, imbedded in a mucus which is usually more or less greenish. The "soap stool," a second form of fat indigestion, is light yellow or whitish, has a shiny surface and a soapy appearance, and is almost entirely composed of fat. There is a third but less common type of stool almost wholly composed of fatty acids, which presents the appearance of Indian meal.
>
> An acid, burning stool is an indication that the starches, which under normal conditions are converted into sugar and in this form absorbed, have, owing to a faulty digestion, undergone a further reduction by which the sugar has been broken up into lactic, acetic and succinic acids. If an acid stool is stained with Gram's or Lugol's solution the starch granules present are stained blue.
>
> In the case of lactalbumin and whey, protein indigestion gives no clinical signs in the stools; but the presence of tough, bean-like curds indicates that casein digestion is disturbed.

Of course more scientific examination of the stools may be made chemically and microscopically, but macroscopic observations as above described may give the clue as to what the diet should be for an infant who has eczema. It has often been noted that infantile eczema sometimes persists for months in spite of all kinds of treatment and then gradually disappears without the reason for the cure being recognized when, on account of the child's age alone, the diet is changed.

Besides the eczema in children due to a mistake in diet, we should probably recognize an eczema of nervous origin, which may be the type which occurs on children's faces during teething.

The inflammations of the skin that occur in parts where there is chafing, or where there are irritating secretions or excretions, are of local origin, and anything that protects such parts will stop the inflammation.

Another type of eczema that occurs in young children is that of the scalp, which is generally an eczema of the sebaceous glands characterized by the yellow, more or less sticky crusts that form on the child's head. It is generally in patches, more or less numerous.

An eczema may be generally diagnosed by the fact that it occurs in patches, is likely to occur on parts of the body subject to irritation, is likely to be worse in cold weather than in warm, may show several degrees of inflammation on the same patient (i. e., several types of eczema), and generally causes itching.

The eczema that occurs in young children in the form of fissures or cracks in the skin, either around the ears or at the angles of the mouth, is likely to be the type that is improved by the administration of small doses of thyroid gland substance, 0.05 gm. (1 grain) daily combined with such local and general treatment as indicated. Unquestionably, some forms of eczema in children clear up much more rapidly under such thyroid treatment than without it. Thyroid should not be given in any acute form of eczema, however, but only in the very chronic type.

In the treatment of infantile eczema, besides the modification of the diet above suggested by Towle and Talbot, all external causes of irritation must be sought and removed or prevented. All causes originating in parasites and pus must be excluded. It is too well understood to need much repetition that if the child is not an infant and has begun to eat general food, all irritant substances that are likely to cause urticaria may also be a cause of eczema and should be removed from the diet. Some of these foods that should be excluded from the diet of children are pastry, fried foods, many berries, griddle-cakes, chocolate, nuts and, perhaps for the time being, most of the fruits. The possible reflex irritation of the skin by drugs should be remembered.

It is certain that in all forms of eczema, especially in children, the diet that is the simplest, the most bland, the most suitable for the age of the patient, and the most readily digested is the one that will allow the most speedy cure of the disease.

The hygienic surroundings of the child are of great importance. Cold and dampness tend to make the disease worse, while overheating and an atmosphere that causes the child to be irritable makes the disease worse. Generally the irritated part does better when protected from the atmosphere, but the clothing should not cause overheating and should not cause irritation of the skin. That the reverse of cold atmosphere is beneficial to infants with eczema has been shown by the use of the hot-air cabinet for these little patients. Severe cases of infantile eczema have been treated with success by giving the patients daily for five or ten minutes the dry hot-air treatment in a cabinet.[2]

Just what clothing, whether cotton, linen mesh or silk is best to be next to the child's irritated skin, is to be decided according to the particular child, the nature of its surroundings and the period of the year in which the disease has occurred.

A most important thing to consider in the treatment of infantile eczema is how cleanliness of the body shall be obtained. Water certainly aggravates the condition, and, if a child is unduly or unwisely bathed, a recurrence of a cured eczema may be caused. Sometimes warm water may be allowed if it is rendered alkaline by sodium bicarbonate or sodium bicarbonate and borax. Sometimes oatmeal or bran-water baths are given and found to be non-irritating. Many times it is better not to use water at all on the irritated parts, but to cleanse with a soft cloth moistened with a bland, thin oil. Perhaps the best is almond oil, unless it is desired to leave a film of oil over the surface, when olive oil may be used.

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[2] München. med. Wchnschr., 1912, No. 49, p. 85.

If there is a considerable amount of persistent pustulation, and local germicides, either in ointments or washes, are unsatisfactory or inadvisable, stock vaccines may be used; it seems to have been proved that stock streptococcus and staphylococcus vaccines are as successful as autogenous vaccines. There seems to be no other excuse for using vaccines in eczema.[3]

However thoroughly one may be convinced of the great influence of abnormal constitutional conditions or of disorders of internal functions in the production of eczema, the great importance of external and local treatment must never be overlooked or forgotten. The local treatment has for its object primarily the relief of itching which is a disturbing element, both mental and physical, that cannot be realized by one who has not suffered from the disease. The second object of the local treatment is the restoration of the skin to health.

While adults may be ordered or induced not to scratch the irritated part, in children argument and advice is useless, and the young child must be prevented from scratching the eczematous regions. To this end his finger-nails must be kept short, and the inflamed parts thoroughly covered, if the disease is at all severe. If the disease is more severe and the child is inclined to tear at even the covered parts, his hands must be wrapped in linen so that they will not sweat; or it may be best to put a splint, as a box cover, on his arms so that he cannot flex his elbows. It is better to do something like this than to pin the child's arms down to its sides, thus preventing the child from any movement of the arms at all and causing him to be more restless. It may even be best to put his hands into celluloid mittens that come for this purpose. These are probably the coolest dressings that his hands may have. If the hands are eczematous, of course they will be covered by the applications and dressings used.

An application designed for local use in eczema should contain some remedy designed to relieve the itching. The most useful remedies are menthol, phenol (carbolic acid) or some less pure tarry preparation. Other preparations used are astringent, such as zinc oxid, bismuth subnitrate, bismuth subgallate, alum preparations or lead preparations. As a general rule when eczema is acute, soothing remedies are indicated; when it is subacute or chronic, stimulating applications may be made. The external applications may be in the form of ointments or powders. One of the simplest of the soothing and antipruritic applications is:

℞	c.c.		
Phenolis liquefacti	5	or	♏ lxxv
Olei lini	500		O i

M. et Sig.: Apply externally.

The black wash, which consists of a dram of calomel to a pint of lime-water, has been recommended and much used, but although there is little danger of poisoning with mercury, it would seem unwise to use this preparation on a child. Also, lead washes and lead ointments are perhaps just as well not used, as lead absorption and poisoning could occur.

Another soothing wash is the following:

℞	Gm.	or	c.c.
Mentholis	1		gr. xv
Sodii bicarbonatis			
Sodii boratis ....āā	10	or	ʒ iiss
Glycerini	100		fl℥ iij
Aquae, q. s.............ad	300		fl℥ x

M. et Sig.: Dilute with three parts of warm water and use as a wash.

This preparation not only allays itching, but may aid the healing process.

Various lime-water washes are used, some of which contain powders, such as:

℞	Gm.	or	c.c.
Zinci carbonatis precipitati..	10		ʒ iiss
Glycerini	15		fl℥ ss
Liquoris calcis	25	or	fl℥ i
Aquae rosae, q.s..........ad	200		fl℥ vij

M. et Sig.: Shake, and apply externally.

Zinc oxid may be used in place of the precipitated carbonate of zinc; 5 c.c. of phenol may be added to the above prescription, or half a gram of menthol, as more active antipruritics.

Another sedative is the following:

℞	Gm.	or	c.c.
Zinci oxidi	20		ʒ v
Phenolis liquefacti	2		fl℥ ss
Glycerini	25	or	fl ℥ i
Aquae, q.s. ad............	200		fl℥ vij

M. et Sig.: Shake, and apply to affected parts several times daily.

While glycerin is valuable in dilute solution for most skins, some skins are irritated by it, even when used in very small amounts. In such the glycerin must be omitted from the prescriptions.

Starch may be used as a cooling dry powder application, or starch solutions may be used.

When the inflammation is less active and the irritation not severe, the following ointment may be used:

℞	Gm.	or	c.c.
Phenolis liquefacti	50		♏ vijss
Zinci oxidi	5	or	gr. lxxv
Adipis benzoinati	30		℥ i

M. et Sig.: Apply externally.

If deemed advisable, the phenol may be increased in strength, especially if the itching is severe.

A frequently used preparation, especially in more or less subacute or chronic eczema, is Lassar's paste, a type of which is as follows:

℞	Gm.	or	c.c.
Acidi salicylici	1		gr. xv
Zinci oxidi			
Amyli ....āā	10	or	ʒ iiss
Adipis benzoinati...........	20		ʒ v

M. et Sig.: Use externally.

This ointment makes a more prolonged coating of the part than the previous ointment.

When stimulation seems to be required, especially in the scaly eczemas, resorcin may be used as follows:

℞	Gm.	or	
Resorcinolis	50		gr. vijss
Unguenti aquae rosae	30	or	℥ i

M. et Sig.: Use externally.

The preparation of unguentu of the National Formulary is tion of resorcin, more stimulating than the previous, and tending to cause a healthy inflammation on a chronic, slow-going inflammation. The ingredients of this preparation are:

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[3] Simpson, C. A.: Infantile Eczema, THE JOURNAL A. M. A., April 6, 1912, p. 995

Resorcinol	
Zinc oxid	
Bismuth subnitrate, each	3 parts
Oil of cade	6 parts
Petrolatum and	
Lanolin, enough of each to make in all	50 parts

It is a frequent tendency among those who write prescriptions, and especially among dermatologists, to combine two kinds of ointment bases in ointments for use in skin diseases, both an animal and a "mineral fat," as notice the above National Formulary preparation. It would seem bad prescription writing and a bad combination. Either the "mineral fat" is the better, or the animal fat is the better, certainly not both.

Tarry preparations are still largely used by many physicians who treat diseases of the skin, both as antipruritic and as stimulant. The following is a simple tarry preparation:

℞	Gm.		
Picis liquidae	1		gr. xv
Petrolati	30	or	℥ i

M. et Sig.: Use externally.

The official unguentum picis liquidae contains 50 per cent. of tar. The unguentum picis compositum of the National Formulary contains 4 per cent. of the oil of tar, 2 per cent. of the tincture of benzoin, and 2 per cent. of zinc oxid. If the tar ointment is not strong, it may be rubbed into the chronic eczema patches, not simply spread on them.

When there is a general erythematous inflammation, dry powders such as common starch, flour, bismuth subnitrate, bismuth subgallate and various talcum powders are useful.

Sometimes camphor solutions are of value in itching, and do not cause quite so much burning as menthol preparations. Camphor may be even used as a powder for this purpose, such as:

℞	Gm.		
Camphorae	3		gr. xlv
Zinci oxidi	10	or	ʒ iiss
Amyli	20		ʒ v

M. et Sig.: Apply externally.

There are various official and unofficial ointments and medicated plasters for the treatment of eczema, but they mostly contain one or more of the ingredients already mentioned.

Belladonna mixtures have sometimes been used when the itching was intense and the region in trouble not large. Such ointments should, however, very rarely be used in children, lest poisoning from absorption occur.

If there is a troublesome eczema about the nails or on the finger-tips, sometimes rubber cots to cause sweating and softening of the hardened tissue are of value.

Seborrheic eczema of the scalp, which is frequent and occurs without inflammation and generally without any internal cause, is troublesome and can be cured only by persistent good treatment and care. Changes in diet are of no avail in this form of eczema.

In the first place, the crusts on the scalp should be softened with a sterile oil such as olive oil or a thin petroleum oil, or possibly the olive oil may contain a small percentage of salicylic acid, as 1 or 2 per cent. Castor oil may be used, if preferred, either made sterile or containing the same percentage of salicylic acid. After the crusts have been gradually softened, they may be removed and then gauze saturated with the oil used may be applied to the regions affected and kept in place by any simple light air-pervious cap. Sometimes the scalp is best cleansed, after softening, with ordinary good soap, as castile, or with the official green soap (linimentum saponis mollis).

One of the above preparations of resorcinol may be applied to the scalp after the scabs have been removed, or a sulphur preparation may be used, as:

℞	Gm.		
Sulphuris praecipitati	3	or	ʒ i
Petrolati	25		℥ i

M. et Sig.: Use externally.

Persistent careful cleanliness and gentle stimulation of the scalp will generally prevent a recurrence of this inflammation.

DISTURBANCES OF THE HEART

(Continued from page 519)

ARHYTHMIA

While this term really signifies irregularity and intermittency of the heart, it may also be broadly used to indicate a pulse that is abnormally slow or one that is abnormally fast, a rhythm that is not correct for the age, condition and activity of the patient. Irregularity in the pulse-beat as to volume, force and pressure, except such variation in the pulse wave as caused by respiration, is always abnormal. While an intermittent pulse is of course abnormal, it may be caused in certain persons by a condition that does not in the least interfere with their health and well-being.

As to whether a slow or a more or less (but not excessively) rapid pulse in any one is abnormal depends entirely on whether that speed is normal or abnormal to him. As a general rule the heart is more rapid in women than in men. It is always more rapid in children than in adults, and generally diminishes in frequency after the age of 60, unless there is cardiac weakness or some cardiac muscle degeneration. The average frequency of the pulse in an adult who is at rest is 72 beats per minute, but a frequency of 80 is not abnormal, and a frequency of 65 in men is common; 60 is infrequent in men but normal, while up to 90 is not abnormal, especially in women, at the time the pulse is being counted. It should always be considered that in the majority of patients the pulse is slightly increased while the physician is noting its rapidity. Anything over 90 should always be considered rapid, unless the patient is very nervous and this rapidity is considered accidental. Anything below 60 is abnormally slow. In children under 10 or 12 years of age anything below 80 is unusual, and up to 100 is perfectly normal, at least at such time as the pulse is counted and the patient is awake.

Referring to the first article in this series on disturbances of the heart, it will be noted that many physiologic factors must enter into the production of the normal regularity of the pulse. The stimulus must regularly begin in the auricle, must be perfectly transmitted through the bundle of His to the ventricles, the ventricles must normally contract with the normal and regular force, the valves must close normally and at the proper time, the blood-pressure in the aorta must be normally constant to insure the perfect transmission of the blood to the peripheral arteries and to insure the normal circulation through the coronary arteries, and the arterioles must be normally elastic. The nervous inhibitory control through the vagi nerves must also be normal, and there must be no abnormal reflexes of any part of the body to interfere with the normal vagus control of the heart.

While the heart beats from an inherent musculo-nervous mechanism, nervous interference easily upsets its normal regularity. It may be seriously slowed by nervous shock, fear or sudden peripheral contractions, spasm of muscles, or convulsive contractions, or it may be stimulated to greater rapidity by nervous excitement. It may be slowed or made rapid by reflex irritations, and it may be seriously interfered with by cerebral lesions; it may be made very rapid, or any pressure on the vagi centers in the medulla oblongata will make it very slow. Various kinds of poisons circulating in the blood, both depressants and excitants, may affect the rapidity or the regularity of the heart. Therefore, if it is decided that a given heart is abnormally slow or abnormally rapid, or is decidedly irregular or intermittent, the various causes for such interference with its normal activity must be investigated and admitted or excluded as causative factors.

Many investigations of the rhythm of children's pulses have been made, and some of the later investigations seem to show that not more than 40 per cent. are regular, the remaining 60 per cent. varying from mild irregularity to extreme irregularity.

Scientifically to determine the exact character of a pulse which is discovered by the finger on the radial artery and the stethoscope on the heart to be irregular, tracings of one or more arteries, veins and the heart should be taken. As previously stated in other sections of this series, two synchronous tracings are more accurate than one, and three of more value than two in interpreting the exact activity and regularity of the heart.

The cause of an irregularly acting heart in an adult may be organic, as in the various forms of myocarditis, in broken compensation of valvular disease, Stokes-Adams disease, coronary disease, auricular fibrillation, cerebral disease, and toxemias from various kinds of serious organic disease. The cause may be more or less functional and removable, such as tea, coffee, alcohol, tobacco, gastric indigestion and intestinal fermentation or putrefaction; or it may be due to functional disturbances of the heart such as that due to what has been termed extrasystole, or to irregular ventricular contractions. A frequent cause of irregular heart action in women, more especially of increased rapidity, is hyperthyroidism.

There may be an arhythmia due to some nervous stimulation, probably through the pneumogastric, so that the pulse varies abnormally during respiration, being accelerated during inspiration and retarded during expiration more than is normally found in adults. This condition is frequent in children, and is noticed in neurotic adults and sometimes during convalescence from a serious illness. Nervous and physical rest, with plenty of sleep and fresh, clean air so that the respiratory center is normally stimulated, will generally improve this condition in an adult.

Extrasystoles causing arhythmia give a more or less regularly intermittent pulse, while the examination of the heart discloses an imperfect beat or the extrasystole which is not transmitted or acted on by the ventricles, and hence the intermittency in the peripheral arteries. This condition may be due to some toxemia, nervous irritability, or some irritation in the heart muscle. Good general elimination by catharsis, warm baths to increase the peripheral circulation, a low diet for a few days, abstinence from any toxin that could cause this cardiac irritation, extra physical and mental rest, sometimes nervous sedatives such as bromids, and perhaps a lowering of the blood-pressure by nitroglycerin if such is indicated, or an increase of the cardiac tone by digitalis if that is indicated, will generally remove the cardiac irritation and prevent the extrasystoles, when the heart will again become regular. It should be carefully decided whether there is beginning heart-block or beginning Stokes-Adams disease, in which case digitalis should not be used. This disease is not frequent, while extrasystoles of a functional character are very frequent. Sometimes this functional disease persists without any apparent injury to the individual as long as the ventricle does not take note of these extra auricular systoles and does not also become extra rapid. If the ventricle does contract with this increased rapidity it soon wears itself out, and the condition becomes serious.

In this kind of arhythmia, if there are no contraindications to digitalis, it is the logical drug to use from its physiologic activities, slowing the heart by its action on the vagi and causing a steadier contraction of the heart; clinically this treatment is generally successful. If digitalis should cause the individual heart to become more irritable, it is acting for harm, and should be stopped.

One has but to refer to the enumerated causes of irregular heart action to determine the treatment. In that caused by extrasystole the treatment has just been suggested. In irregular heart caused by serious cardiac or other lesions the treatment has already been described, or is that of the disease that has a badly acting heart as a complication. If the irregularity is caused by toxins, the treatment is to stop the ingestion of the toxin and to promote the elimination of what is already in the system; how much of the irregularity was due to the toxin and how much is inherent disturbance in the heart can then be determined. If the cause of a toxemia developed in the system, perhaps most frequently from intestinal putrefaction, increased elimination and a regulation of the diet will cure the condition.

The valvular lesions most likely to cause irregular action of the heart are mitral insufficiency or mitral stenosis. The lesion that is most likely to cause auricular fibrillation and more or less permanently irregular heart is perhaps mitral stenosis. Another frequent cause of more or less permanent irregularity is the excessive use of alcohol.

While an irregular pulse and an irregular heart are always of more or less serious import, still, as the extrasystoles of the auricle are better understood and more frequently recognized, and the habits and life of the patients (most frequently men) are regulated and revised, frequently a pulse and heart that would be rejected by any medical examiner for an insurance company becomes, in a few weeks or a few months, a perfectly acting heart, and remains so sometimes for years. It also is not quite determinable whether a heart that is so misbehaving has a recurrence of such misbehavior more readily than a heart that has never been so affected. However this may be, the cause having been determined or presumed by the physician, it should be so impressed on the patient that he does not ag repea insult to his heart.

(To be conti

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

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SATURDAY, FEBRUARY 22, 1913

COW'S MILK AND THE STAGE OF LACTATION

In order to carry out intelligently and successfully some of the practices of milk modification which are now widely employed in the field of infant-feeding an accurate knowledge of the composition of cow's milk is indispensable. This applies not only to the qualitative character of its constituents but likewise to the proportions of the well-known foodstuffs that make up the mammary secretion. The variations of cow's milk with reference to different breeds of cattle — for example, the specific distinctions between the milk of Holsteins and Jerseys — are well appreciated in a general way. It is also usually admitted that the feeding of cattle may have some influence on the properties of their milk, although these dietary effects, as well as the individuality of the animals, are of minor import in respect to its composition except in relation to the fat content. With regard to another factor, namely, the influence of the stage of lactation on the quality of the milk, the available data are more limited; or at any rate information on this point has not yet become a part of the general information which is diffused in respect to milk. The available facts pertain for the most part to a single constituent of the milk, the fat. There are few elaborate and comprehensive records in which any attempt has been made to eliminate the influence of the varying feed of the animals when all or even a majority of the conspicuous milk constituents have been studied during an entire lactation period.

Information of the desired character has lately been furnished by the Bureau of Animal Industry in cooperation with the Missouri Agricultural Experiment Station.[1] Four different breeds were studied, the ration of each cow being kept of uniform composition throughout the lactation period. In regard to its effect on the composition of milk, the lactation period may be divided roughly into three parts. The first stage includes the interval from the time the secretion of milk begins until the composition reaches a normal standard for milk, and covers a period of from three to six weeks. After the birth of the calf the colostrum is first secreted, which contains, as is well known, an extremely high percentage of protein and of ash as compared with that in milk. This composition changes rapidly during the first four days. Milk is ordinarily considered to be fit for food about the fifth day, although the changes in the composition continue for some time. The percentage of total protein, as well as of fat, as a rule continues to decline for from three to six weeks. One prominent characteristic of the fat during the first stage is the extremely large globules which are found in the beginning of the period and which decline rapidly in size during the first few weeks. During this stage the composition of the fat also shows an irregular variation from the normal. The second stage in the lactation period begins when the composition of the secretion becomes normal milk, and continues until a point is reached when a rapid decline in the quantity of milk produced begins. Ordinarily this occurs within from about six weeks to two months from the end of the lactation period. The length of the second stage will depend on the length of the time the cow produces milk, and to some extent on the quantity. If the complete lactation period of the cow be ten months, the second stage will cover under average conditions about six and one-half months. During this interval the composition of the milk remains in general quite uniform. In the third stage, beginning from six weeks to two months before the end of the lactation period, the composition of the milk changes widely from the average for the entire period, and while the extent of these changes varies with different animals, they are uniform to the degree that they may be reasonably counted on to occur under all normal conditions. The percentage of total protein rises rapidly, followed by the fat, although on the average the protein makes slightly the larger increase. During this stage the total protein content may be one-third higher than that present during the middle of the lactation period. The casein and albumin remain in practically the same proportions.

It is evident, from the wide variations caused by the lactation period, as the government investigators point out, especially in the content of protein present, that it is of considerable importance in many cases to consider the stage of the lactation period of the animal furnishing the milk in connection with its use as food. For infant-feeding, especially, the amount of protein present is one of the important questions; and since a variation of one-third may be expected in the protein due to the stage of lactation, this factor should be understood and taken into account in modifying milk for infant-feeding. When mixed milk of a herd is used, wide variation due to this cause would naturally be less liable to occur; but when the source of supply is one animal or a limited number all in the same stage of lactation, the importance of this factor as influencing the composition of the milk would be considerable. It has been observed that near the end of the milking period frequently a strong abnormal taste and odor are developed in cow's milk on standing. The cause of this has not yet been determined, although the evidence points against the action of bacteria as the effective factor. The taste and odor are not uncommon in the milk of cows kept under commercial conditions.

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[1] Eckles, C. H., and Shaw, R. H.: The Influence of the Stage of Lactation on the Composition and Properties of Milk, Bureau of Animal Industry, Bull. 155, 1913, pp. 88. Copies may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 10 cents.

CHEMICAL RESEARCH ON THE BRAIN

Whenever histologic investigation gives evidences of conspicuous changes in the microscopic appearance of a tissue or organ as an incident of some pathologic manifestation, an attendant alteration in the chemical make-up may be anticipated with considerable confidence. Modern methods of histologic examination in which staining reactions are the dominant feature are, of course, based on chemical factors. Altered tinctorial capacities of tissue elements therefore postulate the existence of altered chemical relations. The tissues have changed in composition. One of the aims of pathologic research must be to correlate disturbances of function with altered morphologic conditions and variations in chemical composition; and the ideal will be reached when this interdependence is clearly made out and suitably interpreted in its bearing on the varieties of morbid processes. It was to this goal in respect to the chemistry of the nervous system that the talented young American investigator, Waldemar Koch of Chicago, was successfully directing his energies prior to his lamented untimely death last year.

Koch has shown that the brain exhibits pronounced alterations in composition in cases of dementia praecox. Pighini[1] has now reported distinct variations from the normal content of brain constituents in cases of progressive paralysis. The proportion of water is increased, while the quantitative relations of the significant lipoid constituents are decidedly upset. In these abnormal brains cholesterol is increased along with a decrease in the phosphatids of the kephalin type, so that a sort of "cholesterol degeneration" may be postulated, if this expression may be used in a sense analogous to the term "fatty degeneration." What this accumulation of cholesterol may signify is reserved for the future to disclose. Pighini calls attention to the undue quantities of this lipoid in the cerebrospinal fluid of paralytics, and believes that it may have significance for the outcome of Wassermann tests performed on this fluid.

For the present the distorted relative proportions of at least two prominent brain lipoids — cholesterol and kephalin — in a definite pathologic manifestation of the nervous system must serve as a suggestion of the possibilities of future work in this field. The acknowledged difficulties in the attempt to master it need not minimize its importance or discourage continued effort. As an illustration of the prospects we may recall Fränkel's suggestion that kephalin, with its great avidity for oxygen and consequent rôle in the tissue respiration of the nervous system must have a conspicuous physiologic significance. It is not illogical to expect, therefore, that a pronounced decrease in kephalin as it has been observed in these brain abnormalities will damage the functions of the organs to which it naturally contributes. Undue speculations of this sort are dangerous, however, if they are permitted to bias our views beyond what known facts justify.

WOMEN MOTORISTS

Women motorists are increasing in numbers; and this fact is said to be stimulating manufacturers to build cars with especial reference to feminine abilities and limitations. "Cranking up" has heretofore certainly been a man's work; and the chauffeur's fracture, occasioned by this maneuver, has not been rare. When the self-starter has been perfected, however, as it now promises to be, and becomes simple, inexpensive and reliable, about the last mechanical impediment to a woman's handling her own car will be removed. Even now the clutch, which used to require a man's muscular power to disengage, generally needs only the strength which the average woman can easily exert, and new devices make it possible for women to adjust tires. This suggests a brief discussion of the limitations of motoring for women and the not infrequent sequelae, some of which apply to men as well.

Driving a motor car from April to November should be a healthful recreation, both physical and mental, for many women, provided the exercise be within reasonable limits, speeding being eschewed and the car a runabout or light roadster — one, at any rate, not too heavy for a woman to handle. The "weaker sex" are naturally quick of eye and deft of wrist, two qualifications, aside from sufficient strength, which are needed. It may be said, however, that women are in general more excitable and of less steady judgment than men, shortcomings which may prove disastrous in emergencies, or which might render it advisable to confine motoring efforts to areas outside the crowded portion of the larger cities. The rougher contact of men with the every-day things of life, their greater participation from boyhood up in sports and athletics generally, better fit them to meet the exigencies of motoring. General athletic training for women and indulgence in sports such as swimming, rowing, tennis or the work of the gymnasium which develop command and coordination of muscle and brain, would to an extent supply this lack in women, and no doubt many women with such training may become efficient motorists. It may be possible that it should be limited to women with such training. To them it offers much pleasure and benefit, perhaps, and may be ind in when the other forms of exercise or sport are unavailable or unsuitable. Rational motoring affords opportunity for plenty of fresh air, with improved appetite and increased zest of life. The ever-changing scenes may soothe and satisfy the emotions, and hitherto unfamiliar aspects of civilization may interest and divert from introspection.

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[1] Carbone, D., and Pighini, G.: Beitrag zur chemischen Zusammensetzung des Gehirns bei der progressiven Paralyse, Biochem. Ztschr., 1912, xlvi, 450.

There is, however, quite a formidable array of troubles, nervous and otherwise, which have been charged against motoring, and which point to the fact that the sport at best is a somewhat strenuous one for women. The ailments for which the motor-car may be held responsible are due almost entirely, however, to speeding and to the fear of accidents which might be engendered as the result of this.

The "auto-eye" is a spasm of the ciliary muscles (which govern accommodations for distances); to this those who have errors of refraction are specially prone; speeding over an unknown country, through devious roads, the sight being constantly and rapidly attracted by objects now near and now in the distance, makes an abnormal strain on the visual mechanism.

Wind and dust, coupled with high speed, induce any degree of conjunctival inflammation, from a hyperemia to a contagious lesion; the wearing of goggles largely obviates this. Auto-leg is a cramp due to sitting in one position for hours, while the veins and muscles are under strain from consecutive shocks and joltings over bad roads.

The sequelae of nerve strain and nerve exhaustion, such as hysteria and neurasthenia, are not rare, especially among young women who motor extensively. Such attacks come on relaxation after strain in a rapid run over many miles, but they are not ordinarily serious in healthy women; and yet in those not up to par as to their nervous systems, they have grave sequelae. The excitement of motoring may appeal to such women. The ever-increasing stimulation inherent in speeding may sooner or later end in prostration. For such cases entire rest and complete abandonment of motoring are absolutely essential. All women absorbed in motoring should from time to time consult their physicians regarding conditions which they are unable to account for.

Edgar[1] considers that the unfavorable influence of motoring on pregnancy has been somewhat exaggerated, and that it has in many instances been unfairly set down as abortifacient. The middle third of pregnancy is more liable to be thus affected than any other. Delavan[2] considers that while pulmonary diseases should in theory be much increased by motoring, practically such is not the case; indeed, the car properly used is a valuable therapeutic agent. Nevertheless, acute catarrhs and advanced tuberculosis with abnormal temperature certainly contra-indicate motoring.

ANOTHER ALEXIS ST. MARTIN

It is sometimes forgotten that the epoch-making researches of Pawlow on the physiology of digestion, the secretory functions of the glands connected with the alimentary tract and the accompanying remarkable nervous coordination, were carried out on the lower animals. In their experiments on dogs with gastric fistulas the Russian investigator and his school have brought out the influence which not only taste and smell, but sight as well, exert on the alimentary secretions in general and the flow of gastric juice in particular. Furthermore they showed that in the stomach special food materials in contact with the mucosa may exhibit a specific effect on both the quantity and the composition of the gastric juice. Food introduced directly into the stomach without the knowledge of the animal is attended by a far tardier secretion than results when the same aliment is ingested in the usual way. For this reason we have been taught to lay great stress on the initial "psychic" secretion as an almost indispensable introduction to subsequent phases of digestion.

Several opportunities have been afforded since the publication of Pawlow's investigations to test his conclusions on man. The cases have almost invariably involved a gastrostomy operation in consequence of a stenosis of the esophagus. We referred recently[1] to Professor Carlson's observations. A new case, reported by Albertoni and Tullio,[2] offers some additional suggestive indications of the behavior of the human stomach. Their subject, in contrast to most of the others whose history has become a part of medical literature, was accustomed to introduce his nutriment in the form of a semifluid mixture of milk or bouillon cooked with bread, together with additions of egg and wine. As the stomach was thus filled a feeling of agreeable fulness ensued. The influence of habit in relation to the sensation of hunger is well brought out. Whenever the appropriate time for the usual repast was allowed to pass even for a brief interval, a sense of exhaustion and emptiness of the stomach was at once experienced and could be readily dispelled by the introduction of nourishment. Thirst likewise was relieved in a few minutes after the direct introduction of liquids into the stomach. The occurrence of hunger at meal-times is most natural, for, as the regularity of defecation indicates, the alimentary tract has habits. As Cannon has pointed out, gastric activity in the form of the contractions associated with hunger returns at the usual meal-time as the result of custom. By taking food regularly at a definite hour in the evening for several days, a new hunger period can be established.

In distinction from these well-developed sensations of hunger, thirst and satiety the specific psychical response to foods of different flavor and composition was far less conspicuous. Bitter or sweet left no distinction in respect to gastric sensation when the varied flavors were introduced without allowing the subject to taste them. Bouillon or saline were not mentally discriminated when they were not previously tasted. But the stomach evidently can make sharp chemical distinctions. The presence of bouillon provoked a speedier appearance of acid in the stomach contents, and the patient appreciated in a vague way that bouillon afforded him a more agreeable digestion; it "braced" him up. Bread, likewise, left a peculiarly favorable impression; and wine was effective in proportion to its alcoholic content. These striking impressions deserve notice as something more than mere whims of the individual. Pawlow and others have shown that milk and meat extractives (bouillon) are almost the only common alimentary substances which, by themselves, provoke efficient gastric digestion even when they are introduced into the stomach without the knowledge of the animal. Bread is known to be comparatively rich in a gastric secretory stimulant; and alcohol has a demonstrated record as a direct incitant of secretion. Almost instinctively, therefore, Albertoni's patient has selected for his regimen those dietary substances which have an immediate effect on gastric secretion independent of the gustatory or psychic factor. The normal course of the digestion and the excellent utilization of the nutriment may therefore be attributed in good part to its composition, which corresponded to all the physiologic exigencies of perfect alimentation despite the exclusion of the processes which are ordinarily initiated in the mouth.

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[1] Edgar, J. C.: The Influence of the Automobile on Obstetric and Gynecologic Conditions, Am. Jour. Obst., June, 1911.

[2] Delavan, G. B.: The Influence of the Use of the Automobile on the Upper Air Passages, Med. Rec., Aug 20, 1910.

[1] The Stomach in Hunger, editorial, THE JOURNAL A. M. A., Feb. 8, 1913, p. 448.

[2] Albertoni, P., and Tullio, F.: Mem. d. r. Accad. d. sc. d. Ist. di Bologna, 1911-1912, ix, Series 6a.

The Italian investigators have placed considerable emphasis on the quantitative aspects of the diet of their unique subject. Greatly emaciated at first, he had gradually brought himself back to his original satisfactory nutritive condition. As his weight increased he was observed gradually to reduce somewhat the intake of milk, bread and eggs until a stationary level, so to speak, was reached. This occurred with a diet of about 3,000 calories, containing more than 100 gm. of protein — figures in accord with the long-accepted standards of physiologists. Ordinarily our food intake is regulated by a large number of external factors which may modify the appetite and control our habits of eating. In this fistulous individual the diet might be regarded, in the opinion of Albertoni and Tullio, as corresponding to a real requirement of the organism, for it has not been modified in quantity by any agreeable or other sensations such as ordinarily attend the usual manner of eating. One might debate, however, whether so limited an experience suffices to permit any profound decision in the many-sided question of the true nutritive need of mankind. Far more striking is the fact that the requirement was so satisfactorily met in this instance in respect to both the quantity and the quality of food by a kind of dietary judgment reached independently of the sensory data and psychic impressions that ordinarily guide us at meal-time.

THE LAYMAN, MEDICAL ADVERTISEMENTS AND THE NEWSPAPER

Whenever one has been identified for some time with any movement for the promotion of the public welfare, or with a propaganda directed against cherished traditions or acquired habits of a people or a class of the population, it is wholesome to engage in retrospect. The success of any worthy reform must always be measured by the effects which it actually secures rather than by the motives of those who are ambitious in its behalf. No one will deny the persistency of THE JOURNAL in stating its policy with regard to what it considers to be undesirable or fraudulent advertising. The campaign in behalf of the same honesty in the advertising columns of our medical journals that is avowedly cultivated in their editorial and original contributions has been carried on unrelentingly and without regard to usual courtesies of statement or the interchange of meaningless compliment. It has been an exhibition on our part of what we firmly believe to be the unvarnished truth and a readiness, we trust, to do justice and to make reasonable allowances.

The effects of the propaganda are beginning to manifest themselves slowly yet forcibly. The probable outcome has been sufficiently obvious to keep the advertiser himself alert; and the study of the changes which the wording of many an advertisement has undergone in recent times would form an interesting chapter in the psychology of the subject. A dietary product long brought to the attention of the medical and lay reader under the name of *diabetic* food has deftly been altered to read *diatetic* food. Such illustrations mean little by themselves; but they indicate the response which is unconsciously or stealthily being made to the pressure of publicity and enlightened public opinion.

It is gratifying, above all, to discover evidences of progress and changing sentiment in strictly lay circles. Our attention has been directed to this recently by a contribution published in one of the dailies of the eastern United States. The article in question[1] exhibits a keen analysis of the problem of medical advertising in the lay press. The editor can no longer shirk responsibility for a fake medical announcement or the advertisement of a fraudulent claim or worthless product. Let us follow the writer's argument. We base our value of news items, or editorial utterance, he says, on the reputation of the newspaper in whose pages they appear. Why is it that when a newspaper's advertising is considered, too often we find an entire change of policy and an almost complete absence of responsibility? We hold a newspaper responsible for the news it gives us; we respect its editorial opinions as representing its editor's honest thought; why should we not hold him responsible for the wares he allows to be advertised in the columns of his paper? The better newspapers are quite unanimous i[illegible]g the advertisements of "get-rich-quick" concerns, or fake mining schemes, and of obscene or immoral literature. Rarely nowadays do we find the "personal" column of a newspaper to be simply a more or less disguised directory of panders and prostitutes. In these respects the daily press has shown a constant improvement; but when we consider the advertising of medicaments generally we find another story. It is true that the majority of our leading magazines keep their advertising columns wonderfully clean, this is also true even of some of the religious papers which in the past have been notorious offenders. But the daily newspaper, with few exceptions, lags far behind in the crusade for decent advertising.

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[1] Street, J. P.: A Question [illegible] Haven [illegible] Morning Journal-Courier, Feb.

A statistical analysis of the "medical advertising" in the four daily newspapers of a city of 130,000 inhabitants in an eastern state showed one advertising thirty-nine patent medicines or quack treatments, another thirty-five, another twenty-seven, and the fourth two. The latter record for "clean" advertising is equaled by few of the newspapers of the country; yet, strange to say, the sheet in question promulgates the fame of Lydia Pinkham in its columns, indicating how difficult it has been to eradicate the last traces of this preposterous group even in an issue which contains the forceful statement that "self-medication, except for the most trivial disorders, is generally foolish and futile; in some cases it may be positively dangerous."

One of the four newspapers under investigation showed 105 medical advertisements of a questionable type in one day — 255 inches, equivalent to over twelve columns of the newspaper. An argument has sometimes been made in apparent good faith that patent medicines are a boon to the poor man. "It is remarkable," writes the incisive contributor above referred to, "how many money-making manufacturers keep the good of the poor man constantly in view!"

An insidious innovation has lately crept into the sporting pages of some of these papers. "Old Dr. So and So" has gained space there to promise relief to boys and men in familiar terms. The evil of the suggestiveness of such advertisements is well appreciated (and the editor of the paper is sometimes most outspoken about it in another place). Their appearance on the page most read by boys and young men shows "rare business acumen, but complete disregard of public decency."

The tide is turning; and the day can be foreseen when it will no longer be a difficult problem for the editor of a daily newspaper to reconcile the pleadings of his editorials with the practices of the counting-room of his publisher. Until then the campaign of education must be continued.

A Filler

To fill these holes with sundry bits
Would rob the wisest of his wits.
They come in such a lot of sizes
That when they're filled the great surprise is
—that we were able to get anything to fit the blessed cubby-holes!—*Inland Printer*

Current Comment

THE DOCTOR AGAIN PICKED OUT FOR AN EASY MARK

The latest get-rich-quick scheme presented to the unsuspecting doctor is the opportunity to make money from confiding aspirants for nurses' diplomas. If we may judge from the comments of physicians who send us the circulars, the utter crudeness of the scheme will save most men from the trap. It offers physicians the alluring possibility of inveigling friends into presenting sixty dollars to the Rhode Island College of Nursing. In return for this fee, the candidates are led to believe that they may be turned out efficient graduate nurses after a year's study by correspondence with the school — and all this without giving up their regular occupation, if need be. In addition, the promise is held out to them of an opportunity to do postgraduate work at a hospital to be established by this corporation in the dim and distant future when a sufficient number of the gullible ones of this earth shall have been induced to part with their money. But the most captivating point in the scheme is this: The optimistic philanthropists who have founded this "college of nursing" declare that they "want to give you $100 each year during the balance of your life." That is, for every one that the doctor succeeds in inducing to purchase a paid certificate for the course, he will receive one share, ostensibly worth $20, of the valuable stock of the company. And what doctor cannot find in his community five young ladies a year who wish to become nurses? Then comes the final joker. The doctor may instruct these probationers (mayhap 'twill ease his conscience) by placing them on his less fortunate cases. A neat and pleasing scheme for money-making; surely one must be hypercritical who asks if the rewards are sufficient to repay the most pliant conscience for its surrender!

ENZYMES AND THE PATHOLOGY OF INFANTILE NUTRITIVE DISORDERS

In diseased conditions in which symptoms of disturbed nutrition manifest themselves, it has been a common though by no means logical hypothesis to postulate the absence or deficiency of certain enzymes on which the organism is usually dependent for adequate and correct functioning. Particularly has this been true in the case of digestive disturbances. No one would assert that there is never any justification for such conclusions. The failure of pancreatic secretion may at once be cited as an illustrative instance of a serious withdrawal of essential enzymes from the digestive functions. The primary defect in such conditions, however, is usually not to be sought in a failure on the part of a gland to produce enzymes but rather in some interference, such as obstruction, through which they fail to reach the goal of their activities. In the field of alimentary disorders of children, in particular, there has existed a tendency to correlate some of the manifold pathologic upsets with a lack of some of the digestive enzymes. The reason for this doubtless lies in the assumption that the equipment of the organism in respect to these agencies is perfected along with other features of growth, so that the appearance of this or that enzyme might easily be delayed owing to some imperfection of bodily development. We know that certain functions are not manifested at birth and are initiated only as the growth of the individual proceeds and the full complement of its powers is brought into exhibition. Why not postulate a similar delay in the case of the digestive enzymes to account for the pathology of nutrition in the very young? An examination of the stools of both healthy and sick infants for residual enzymes justifies the belief that, with a few possible exceptions, a deficient functional capacity of the digestive glands cannot be made to account for common disorders of the alimentary processes. Lust[1] has gone a step further in Professor Moro's pediatric clinic at Heidelberg and examined the various organs of the gastro-intestinal tract which are concerned with the elaboration of digestive ferments. This search for alimentary enzymes in the tissues of children failed to disclose any noteworthy lack of these digestive agencies, even in cases of pronounced nutritive disorder. It is scarcely necessary to repeat here the various categories of enzymes which were sought and found in this investigation. The outcome of Lust's examination strengthens the conviction, rapidly gaining ground, that in the pathology of the digestive disorders of infancy the enzyme question plays a very subordinate rôle.

THE ARTIFICIAL RIPENING OF BITTER FRUITS

It is well known that bananas are removed from the tree and shipped while in a green condition and are ripened on the stalk in warm store-rooms. Other fruits which are artificially ripened are persimmons and dates. It is found that dates in California and Arizona only exceptionally reach maturity, but, as shown by experiments of the United States Agricultural Department, they can be matured by artificial means. In an interesting article Prof. Francis E. Lloyd[2] explains the chemistry of this ripening process and how it is brought about. He explains that fruits, the astringency of which in the unripe state is due to tannin, after ripening contain just as much tannin as before, but that it has undergone a change or combination with some other substance which prevents the solution of the tannin in the saliva and hence obviates its astringent taste and action. This effect may be brought about, in the case of dates and persimmons, by means of heat, alcohol, carbon dioxid or acetic acid. Tannin is a colloid which readily dissolves in water or in the juices of the mouth. It exists in such fruits as dates and persimmons in separate little sacs or membranous cells which swell and burst when brought into contact with water, thus permitting the tannin to escape; the familiar astringent bitter taste is the result. When the natural ripening process takes place or when heat or any of the chemical agents named is applied, a coagulation of the contents of the tannin sacs takes place, so that when the fruit is eaten the tannin is not dissolved at all or is so slowly dissolved that the bitter, astringent taste is not observed. The case of the California oranges recently condemned by the federal government under the Food and Drugs Act does not come in the same class. Oranges have no starch to be converted into sugar; hence the sweating process to which these oranges were subjected merely colored them artificially instead of ripening them. Indeed, the ground on which the government seized and disposed of the fruit mentioned above was that it was misbranded as naturally ripened fruit. Fruit actually ripened by artificial means cannot be said to be unwholesome.

MEDICAL EDUCATION IN IOWA

After the close of the present college year, Iowa will have but one medical school, the College of Medicine of the State University of Iowa. In 1907 there were five separate institutions in that state located in Iowa City, Des Moines, Keokuk and Sioux City. Hereafter, medical education in Iowa will be entirely under the direct control of the State University, and will be financially supported by that university—a parallel to what has already taken place in other states, as for instance Minnesota, Indiana and Colorado. This has been made possible through the recent decision of Drake University to merge its medical school at the close of the present session with the College of Medicine of the State University. Among the reasons given for this decision[1] in a published interview with President Bell, the following statement was made:

> The merging of the medical school of Drake with the state university will relieve the institution of a great burden that was being carried at tremendous sacrifice, and will enable it to emphasize those departments which are recognized throughout the country as doing the highest grade of work. Hence this action does not mean a step backward from an educational point of view, but rather a long step forward. The trustees of the institution are gratified that they are able to merge these departments with those of a sister institution in Iowa that has unlimited means to develop a first-class medical school, and maintain it in that position.

It will be remembered that three years ago it had been decided to close this school,[2] but the action at that time resulted in the raising of a sum of money which led to the hope that in time the school might be amply financed. The sum raised, however, has proved to be quite inadequate, and meanwhile an increase in the entrance requirements resulted in a material reduction in the number of students and a corresponding decrease in the college's income. It was quite clear, therefore, that if the college was to maintain a standing equal to that of the State University medical school a very large endowment was necessary. Since the securing of that endowment seemed impossible, the faculty again decided to close the school, this time to merge its interests with the College of Medicine of the State University, rather than to continue as other than a college of the first grade. While it is a matter of regret that so high-grade a school as the Drake University College of Med-

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[1] Lust, F.: Ueber den Nachweis der Verdauungsfermente in den Organen des Magendarmkanals von Säuglingen, Monatsh. f. Kinderh., 1912, xi, 411.

[2] Lloyd, Francis E.: Science, Dec [illegible] p. 870.

[1] See also page 619, this issue.

[2] Drake University and Medical Education, editorial, THE JOURNAL A. M. A., April 23, 1910, p. 1381.

[illegible] Robert [illegible] Library
[illegible] Medical College
32492 [illegible]

icine finds it necessary to close its doors, nevertheless this merger is clearly in the interests of better medical education in Iowa. How strange it is that the colleges which are willing to close in the interests of better standards of medical education are usually those which are themselves of so high a grade! Schools with no such valid excuse for their existence usually require more vigorous methods to arouse their sleeping consciences. This action by the medical faculty of Drake University is but another instance showing the characteristic decisiveness of high-grade medical men in doing the right thing even though it means the laying aside of personal advantages.

PUBLIC PROGRESS VERSUS MEDICAL STAGNATION

One of the most encouraging phases of the campaign carried on by the American Medical Association against fraud in medicine is the rapidly changing attitude of the lay press toward "patent medicine" advertising. In the Propaganda for Reform Department in this issue, we give a few quotations from some of the many letters received by The Journal from the editors or publishers of newspapers and magazines regarding the attitude of their publications to the nostrum evil. These letters are worth reading. We cannot help feeling that if our profession were fully alive to the tremendous change that has taken place in public opinion on the subject of fraudulent medical advertising, the present disgraceful conditions within the profession itself would soon be things of the past. Medical journalism would be forced, by the pressure of professional opinion, to clean its own Augean stable.

EDEMA OF THE LIVER AND NEPHRITIS

There is a wide-spread belief that the edemas which are so frequently associated with renal disease stand in direct relation to the inability of the kidneys to excrete compounds which normally leave the organism in the urine. In so far as this is true the accumulation of products of metabolism and the retention of salts might be looked on as the causes of osmotic changes which manifest themselves in the form of edema. There are probably few instances, however, in which a single factor is responsible for such fluid retentions. The mechanical factor of blood-pressure is rarely sufficient to occasion edema, although it may be a contributory feature. The remote local factors, such as the increased permeability of the capillary walls, as well as some of the local changes in reaction emphasized by Fischer, presumably play a more conspicuous part in the edemas associated with nephritis than is commonly assumed. Edema of the liver and gall-bladder sometimes occurs in association with nephritis, and the question of the relation between the renal and the hepatic factors is thus presented for consideration. Does the hepatic edema depend primarily on the kidney alterations, or is it a simultaneous manifestation attributable to a common cause? Experiments which Professor Opie of the Washington University Medical School in St. Louis has conducted afford an interesting contribution on this point.[1] They indicate that the liver edema is coincident with the production of the renal lesion and not the result of disturbance of renal function. By the use of cantharidin, which is well known to be capable of causing acute nephritis in man and animals, he has shown that such drugs exert an important influence on both the liver and the flow of lymph. A poison which is capable of causing nephritis increases the flow of lymph from the thoracic duct; it acts as a lymphagogue. Pathologic separation of columns of liver cells from adjacent capillaries may simultaneously occur. A fibrinous coagulum may arise within the sinuses of the regional lymphatic nodes, the shreds of fibrin radiating from partially or completely necrotic cells. Such factors in turn induce an obstruction within the regional lymphatic nodes, and edema results. It is a simple illustration of the result of distention of the lymphatics of the liver through obstruction attributable in the beginning to the effect of a toxic agent on this organ. The observations thus support the view, as Opie maintains, that dropsy in association with nephritis is caused by the action of an irritant which injures the kidney and simultaneously increases the permeability of vessel walls elsewhere in the body.

THE PHYLACOGENS — A MENACE TO VACCINE THERAPY

In two, three or four years — according to the amount of money that the exploiters are willing to spend in advertising the shotgun mixtures sold under the proprietary name Phylacogens — these products will have been relegated to that drear limbo of therapeutic shadows whose substance was born of men's thoughtlessness, or worse, cupidity. The existence of the Phylacogens, commercially speaking, is due to the vast resources of the corporation that fathers them. The time will come, as it comes with all therapeutic agents whose value rests on no more substantial basis, when the combined experience of an exploited profession will overcome the counterforce of lavish and prodigal advertising. Then the Phylacogens will cease to interest any but the historian. Possibly that time may come sooner than we expect, for the physician of to-day is not so easily misled as the physician of yesterday and, more important yet, the public of to-day is more critical than the public of a decade ago. But whether it takes four years or one year for this therapeutic rocket to flare itself out, the tragedy lies not in the widely heralded reputed successes, but in the many unreported failures, perhaps deaths, following the use of experimental novelties. Bacterial derivatives, like the Phylacogens, are poisons, powerful, dangerous and little understood. Yet physicians are asked to use them on evidence submitted wholly by those who will benefit financially from their employment. Human nature being the same in the medical profession as elsewhere, the untoward effects will seldom or never be reported; the deaths which follow their administration will be ascribed, unconsciously perhaps, to "unforeseen complications." More than this, the confidence of the public in serotherapy — a therapy which, scientifically applied, holds greater hope for the treatment of human ills than any other yet discovered — will be rudely shaken by this rash use of dangerous and unproved products. How much of a setback scientific medicine will receive from the orgy of advertising in which the exploiters of the Phylacogens are at present indulging can only be surmised. Ten years from now, when the Phylacogen craze is recalled to their memories, thousands of our readers will blush with shame for the profession which tolerated it.

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[1] Opie, E. L.: Lymph Formation and Edema of the Liver with Experimental Nephritis Produced by Cantharidin, Jour. Exper. Med., 1912, xvi, 83.

THE TOXICITY OF WHITE LEAD

Occupation is undoubtedly the most important factor in the etiology of lead-poisoning; and among the occupations the most dangerous are those in which lead is freely handled. This applies particularly to working in white lead and lead colors. The grinding of white lead with oil was formerly a large source of lead-poisoning, because the pigment was dry, and consequently the grinding-mill attendants and the lead-work laborers inhaled lead carbonate dust; but since in many factories the paint is now made with the lead carbonate in the moist state, by the gradual displacement of the moisture with oil during the process of grinding, this source of danger has decreased. There is said to be more danger in the process of grinding basic lead sulphate into paint-oil than there is when grinding the moist lead carbonate in oil. The dangers incidental to the manufacture of red lead are extremely serious. A recent writer in one of the trade journals[1] reports that a large decrease in plumbism in the manufacture of white lead has followed the abolition of female labor and youthful labor in England. The decrease is also consequent on ventilation, the use of respirators, overalls, enforced cleanliness and the avoidance of lead dust. No material increase in the cost of manufacture has resulted, but death and suffering have been averted. It is always gratifying to learn of progress in combating occupational diseases, especially when, as in the lead industries, it has been so difficult to induce those employed to cooperate to their own sanitary advantage.

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[1] Line: Drugs, Oils and Paints, xxviii, 255.

Competitive Athletics.—Under the American system of making specialists out of a few individuals, the primary idea of exercise would seem to tend to the creation of a desire on the part of a few to excel in doing feats of skill and strength, and to the many a desire to view such displays; the rounding out, uniform, and healthful development of all individuals being a secondary instead of a primary consideration. It follows that for many individuals there is created no actual liking for exercise, these persons never having really felt the well-being that comes from a proper dosage, exercise for the athletes having been made a drudgery in order to obtain excellence in condition and teamwork, all pleasurable sensations being lost in the lust for conquest. The athletes, therefore, unless they make their living thereby, soon give up their methods of obtaining exercise because of dislike, or inability to gather others together for a contest, or from lack of a field of play, while the non-athletes, having learned no other form of athletic pleasure than that of viewing others perform, go the way of the ignorant.—Murphy in *U. S. Nav. Med. Bull*

Medical News

ALABAMA

Personal.—Dr. J. B. Haralson is reported to be ill at his home in Fort Payne.——Dr. Alston Maxwell has been elected health officer of Birmingham, vice Dr. George Rau, Tuscaloosa, resigned.

New Dispensary for Anniston.—A free medical dispensary was opened at Anniston early this month by the Salvation Army and to this service Drs. J. W. Landham, Anniston, and Baxter Rittenberry, Hartsells, have agreed to give their services free.

Marion Sims Centennial.—The centennial of the birth of Dr. J. Marion Sims, January 25, was celebrated by the Montgomery County Medical Society with a banquet at the Gay-Teague Hotel, Montgomery, at which Dr. Thomas M. Owen, director of the Alabama Department of Archives and History, spoke on the life and work of Sims in Alabama and especially of his achievements in Montgomery where he did the first work which later brought him such renown; and Dr. R. S. Hill, Montgomery, spoke on the secret of Sims' success. The principal address of the evening was delivered by Dr. Edmond Souchon, New Orleans, who told of Sims' triumphal entrance into Paris where Souchon had the honor of acting as interpreter to the French audiences. A movement was started at this meeting to erect a monument in Montgomery in memory of Sims.

ARIZONA

Hospital News.—The Arizona Sanatorium, Safford, was opened to receive patients, January 15.——The new hospital at Phoenix is rapidly nearing completion.

Personal.—Dr. George D. Troutman, Tucson, has been appointed physician of Pima County.——Dr. Winfred Wyley, Phoenix, has been appointed county physician of Gila County with headquarters at Globe.——Dr. Roderick D. Kennedy, Globe, received a fracture of the clavicle and bruises of the head and chest in an automobile accident.

Physical Examination before Marriage.—The Maricopa County Medical Society, at its January meeting, adopted resolutions recommending that persons applying for marriage licenses be examined by a board of competent physicians not engaged at the time in regular practice. The society endorses the proposal to secure legislation aimed to prohibit marriages of those of unsound mind, of those afflicted with any venereal diseases, of persons suffering from tuberculosis in advanced stages and of chronic alcoholics.

COLORADO

Luncheon to Wiley.—Dr. Harvey W. Wiley was the guest of the Medical Society of the City and County of Denver at a luncheon, January 29.

Banquet to New Staff.—The Sisters of St. Anthony's Hospital, Denver, gave a banquet to the newly chosen members of the hospital staff, January 23, which was attended by more than two hundred guests.

Gift to Library.—The Denver-Gross Association has made a gift of $4,100 to the medical library endowment fund of the Medical Society of the City and County of Denver, which increases this fund to $11,000.

Inhalatorium Provided for Sanatorium.—The Jewish Hospital for Consumptives, Denver, has been donated a large sum by Mrs. Joseph B. Greenhut, New York City, with which to equip an addition to the hospital for the inhalation treatment of tuberculosis.

Personal.—Dr Mary Elizabeth Bates, Denver, has been elected vice-president and Dr. Agnes Ditson, Denver, secretary of the National Eugenics Society which was organized in Denver, January 25.——Dr. R. Albi has resigned as superintendent of the Steele Hospital, Denver, and has been succeeded by D. Oscar Hayes.

DELAWARE

Hospital Fund Completed.—The twelve-day campaign to raise $300,000 by public subscription for an endowment fund for the Delaware Hospital, Wilmington, was brought to a successful termination forty minutes before the expiration of the allotted time.

Personal.—Dr. J. A. Ellegood, as been for several months with septic practice.——Dr. Robert W. T appointed resident physician in the Presbyterian Hospital, New York City.

DISTRICT OF COLUMBIA

Fund to Fight Bubonic Plague.—Dr. William C. Woodward, health officer of Washington, appeared recently before the committee of appropriations of the House of Representatives, to urge an appropriation of $25,000 for the protection of Washington against a possible introduction of the bubonic plague.

New Officers.—Medico-Chirurgical Society of the District of Columbia, January 23: president, Dr. J. H. Johnson; secretary, Dr. W. H. Wilson.——Association for the Prevention of Tuberculosis of the District of Columbia: president, Gen. George M. Sternberg, U. S. Army, retired; secretary, Walter S. Ufford.

FLORIDA

State Association Meeting.—The Florida Medical Association will hold its annual meeting in Miami, May 13-15.

New Officers for Sanitarium.—Dr. P. C. Perry has been elected president, Dr. J. H. Douglas, vice-president and Dr. John E. Boyd, secretary of the De Soto Sanitarium, Jacksonville.

Physicians Lose License Fight.—The effort of the physicians of Pensacola to avoid payment of licenses has not succeeded, as the supreme court of the state, February 6, sustained the city of Pensacola and declared the license tax valid.

GEORGIA

Meeting of Alumni.—At the annual meeting of the Alumni Association of the Medical College of Georgia, Augusta, January 29, Dr. L. G. Hardman, Commerce, was elected president; Dr. Le Grand Guerry, Columbia, S. C., and Edmund W. Warren, Palatka, Fla., vice-presidents, and Dr. Charles W. Crane, Augusta, secretary.

Mears Entertained at Savannah.—Dr. James Ewing Mears, Philadelphia, was the guest of honor at an informal meeting of the library committee Book and Journal Club of the Georgia Medical Society. Dr. Mears was interested in the founding of the library and has repeatedly given substantial aid to the enterprize.

Personal.—Dr. R. C. Goolsby, Forsyth, sustained serious injury to his eye during an initiation at a lodge in Macon, February 3.——Dr. William P. Nicolson, Atlanta, who was seriously injured in an automobile accident, recently, sustaining a fracture of the clavicle and several ribs, is convalescent.——Dr. W. H. Elliott, Savannah, chief surgeon of the Central Georgia Railroad has retired and has been succeeded by Dr. W. W. Owens.

ILLINOIS

Personal.—Dr. Sidney D. Wilgus, superintendent of the Kankakee State Hospital, has purchased the Ransom Sanatorium, Rockford, from the heirs of the late Dr. Frank Jencks.——Dr. George F. Butler, Wilmette, has resigned as physician of Cook County to become medical director of the Mudlavia Sanitarium, Kramer, Ind. He has been succeeded as county physician by Dr. Haim I. Davis, Chicago.——Dr. Ralph Mills, Decatur, who is on leave from his station as medical missionary in Korea, was operated on recently for appendicitis in Rochester, Minn.——Dr. Jesse A. King, Victoria, fell against his buggy wheel recently, fracturing one rib.——Dr. George W. Fuller, Danville, has moved to Los Angeles, Cal.——Dr. E. E. G. Weiland, Bloomington, who has been ill with septicemia, is reported to be improving.

Chicago

New Dispensary.—A movement has been commenced for the organization of a free dispensary in the neighborhood of Wood and Division Streets. Dr. J. Shanks is at the head of the movement.

New Hospital Opened.—The new building of the German Hospital of Chicago was formally opened, February 16 The building has been completed at a cost of $350,000 and provides accommodation for 150 patients.

Tuberculosis Study.—The first meeting of the Tuberculosis Study Circle of the Chicago Tuberculosis Institute was held February 11. Dr. H. Gideon Wells of the University of Chicago spoke on the chemistherapy of tuberculosis.

Past Presidents' Dinner.—The Chicago Medical Society gave a banquet, February 12, in honor of its past presidents. Between seven and eight hundred were in attendance and twenty of the past presidents were on the platform. Dr. Jacob Frank, president, was toastmaster and the past presidents gave short talks regarding the progress of the society during their respective terms of office. A portrait of Dr. N. S. Davis, the first president, was unveiled by Dr. J. Rawson Pennington.

Personal.—Dr. W. E. J. Michelet was attacked by a thief and seriously injured, February 8.——Dr. Thomas A. Woodruff has gone to Jekyl Island for the remainder of the winter.——Dr. H. H. Mather has been elected vice-president of the Alumni Association of Valparaiso University.

IOWA

State Society Meeting.—The annual meeting of the Iowa State Medical Society will be held in Des Moines, May 7-9.

College to Close.—Drake University College of Medicine will merge with the State University as detailed on page 619 of this issue.

Detention Hospital Opened.—The small-pox hospital, Des Moines, was opened, February 9, with one patient. The institution has room for fifty patients.

New Medical Societies.—Waterloo Medical Society was incorporated, February 7, with Dr. W. B. Small, president; Dr. W. M. Shirley, secretary, and Dr. J. Cecil Bickley, treasurer.——Fort Madison Clinical Society was organized recently with Dr. C. F. Wahrer, president and Dr. V. T. Doering, secretary.

Personal.—Dr. G. F. Severs, Centerville, has been appointed a member of the State Board of Health, vice Dr. B. L. Eiker, Leon.——Dr. L. B. Toon, Dow City, was thrown from his buggy in a runaway accident, January 28, and painfully injured.——Dr. W. W. Holmes, superintendent of the Denison Hospital, is reported to be critically ill.——Dr. Royal L. Cleaves, Cherokee, is said to be critically ill with pneumonia.——Dr. and Mrs. O. A. Brownson, Dubuque, have moved to California.——Dr. Evalene E. Peo, Boone, has returned from Europe.——Dr. John Knox, Princeton, suffered dislocation of his right shoulder and fractured three ribs in a collision between his buggy and a train while driving across the railroad tracks at Princeton, February 11.——Dr. and Mrs. F. F. Feeney, New Hampton, sailed for Europe, February 18.——Dr. Mary D. Ardery is reported to be seriously ill at her home in Knoxville on account of a cerebral hemorrhage.

KENTUCKY

New Disease Carrier.—After a number of examinations, the City Health Department has condemned the common fork in use at the saloon free-lunch stands throughout the city, and contemplates asking the general council to pass an ordinance prohibiting its use.

Personal.—Dr. T. W. Taylor, Henderson, suffered a cerebral hemorrhage on his ninetieth birthday, February 4.——Dr. Charles W. Aitkin, Flemingsburg, while leaving St. Joseph's Hospital, Lexington, with a patient, February 3, slipped on the ice and fell down five steps fracturing a rib.

Tuberculosis Hospital Nurses.—Nurses in training under the supervision of the Board of Tuberculosis Hospital must in future take a three-year course instead of a two-year course, before they are eligible for graduation; eight months of the training will be given in the City Hospital Training School for Nurses. This decision was reached recently at a conference between the Board of Public Safety and the Board of Tuberculosis Hospital.

Norton Infirmary Improvement.—The medical staff of the John N. Norton Memorial Infirmary in a recent conference with the board of trustees and the board of managers recommended a number of improvements that should bring this institution thoroughly up to date, including additional operating-rooms, a complete Roentgen-ray equipment, pathologic and chemical laboratories, an intern, additional equipment on each floor for surgical dressing, dressing and consultation room for the staff, etc.

City Hospital Staff.—The Board of Public Safety has been petitioned by the trustees of the Medical Department of the University of Louisville to place the appointment of the visiting staff in their hands so that the hospital may be used as a teaching hospital the year round. A number of the non-school practitioners have petitioned the board to appoint from the ranks of the non-school men a visiting staff for the months during which the school is not in session, which has been the custom heretofore. The negro physicians of Louisville have just presented a petition to the board, signed by twenty members of the Falls City Association of Physicians, Pharmacists and Dentists, colored, in which they request that the colored patients of the institution be looked after by colored physicians, nurses and interns. The board promised to take the matter under consideration.

MARYLAND

Contagious Diseases.—The schools of North Govans have been closed on account of the prevalence of scarlet fever.——A case of small-pox was discovered at Cresaptown, February 13.

Baltimore

Convalescent Farm for Phipps Institute.—The Phipps Institute is to be equipped with a farm where patients under treatment at the psychiatric clinic may remain during convalescence.

Book and Journal Club.—The work of the Book and Journal Club is most valuable in adding new books and journals to the library of the Medical and Chirurgical Faculty of Maryland. There are at present eighty-seven members and about $500 is available from membership fees.

Personal.—Dr. Frank J. Sladen has been appointed head of the department of medicine and Dr. Harry W. Plaggemeyer, associate professor of surgery and director of the department of urologic surgery in the new Detroit General Hospital. Dr. Plaggemeyer will spend the spring and summer in research work in Europe.——Dr. Nathan R. Gorter, the new health commissioner, fell and broke his right arm and wrist at the Church Home and Infirmary, recently.——Dr. Andrew A. Anderson has resigned from the staff of Mercy Hospital and gone to Salt Lake City to practice.——Dr. J. B. Schwatka has returned from Europe.——Dr. Kenneth Jones, assistant in the insane department of Bayview Asylum, has resigned.

NEW YORK

Home for Families of Tuberculosis Patients.—The Urania Society of Otisville has petitioned the State Board of Charities for permission to establish a home in which to care for the wives and children of tuberculosis patients in the Municipal Sanatorium, Otisville.

Personal.—Drs. H. S. Liddle, Frank Vander Bogart, Louis P. Faust, George P. Harran and E. M. Stanton have been elected directors of the Mercy Hospital, Schenectady.——Dr. and Mrs. Frederick Flaherty, Syracuse, have returned from a trip to the West Indies and Panama.——Dr. James H. Glass has been reelected surgeon in charge of Faxton Hospital, Utica.

Open-Air System in Public Schools.—An experiment in ventilation recently worked out by Dr. John B. Todd, Syracuse, has proved very satisfactory. With the temperature at 1 degree below zero, four of the largest rooms in the Sumner School were kept wide open, the windows being protected only by screens covered with unbleached cotton cloth. This open-air system is to be introduced in other schools in the city.

Hospital Notes.—The annex to St. Mary's Hospital, Amsterdam, which cost about $30,000, was formally opened, February 2. The three-story brick annex is directly connected with the old part.——The Mountain Sanatorium, Binghamton, has been turned over by the City Hospital to the health commissioner of the city.——The State Hospital Commission emphasizes the crowded condition of the hospitals for the insane in its annual report, giving a total shortage at the close of 1912 of 4,800 beds. The total number of insane in the state as given is as follows: men, 16,271; women, 17,702.

The Antivivisection Bill.—The McClelland Antivivisection Bill is responsible for an inquiry on the part of one of the state senators as to the reasons why all the best physicians are opposed to the bill. Dr. Simon Flexner in response to the inquiry, especially emphasizes the fact that the secret private laboratory which no one but an officer with a warrant can get into is a figment of the imagination; that there is no information for a commission of investigation to obtain beyond what is obtainable by any responsible individual any day in the year, as no one capable of understanding what is going on is refused admission to the laboratories. The present measure before the legislature carries no appropriation for expenses. It is presumed that the antivivisection societies proposed to pay for the work and would determine beforehand its scope and effect.

Sulzer Commission Continues Its Hearings.—The commission appointed by Governor Sulzer to investigate and make suggestions for the revision of the health laws of the state continues to take testimony. Dr. Porter has given his opinions on a system of sanitary inspection, which, he says, must be inaugurated slowly as the up-state voters will not submit to heavier taxation. He suggests that one supervisor of sanitation have charge of three counties, be allowed a salary of $3,000 a year, and be assured of ten years' tenure of office and in this connection he recommends a state sanitary school. Dr. Walter F. Wilcox pointed out the defects in the present system of collecting vital statistics, and Mr. Jacob H. Schiff made a plea for the state control of advanced cases of tuberculosis. He said that under the present laws it was easy to get tuberculous persons admitted to institutions, but it was not easy to keep them there. Many are now allowed to leave sanatoriums with the disease arrested, with the appalling result that 95 per cent. of them suffer relapses. There should be compulsory isolation for advanced cases, an opportunity for tuberculous patients to go to sanatoriums and on leaving them, to be permitted to go where they will not be victims of their old surroundings.

New York City

Death of Well-Known Medical College Employee.—Joseph V. Standish, for fifty years clerk of the University and Bellevue Hospital Medical College, known to many generations of medical students, died at his home in New York, February 10, from angina pectoris.

Personal.—Dr. M. Allen Starr sailed for Egypt, February 18, to be gone until September.——Dr. Alexis Carrel has been elected corresponding member of the Paris Academy of Medicine and has had conferred on him the decoration of the Legion of Honor.——Dr. Emma C. Hackett has sailed for Europe.

Cartwright Lectures.—Prof. Ludwig Aschoff's lectures, the Cartwright lectures of the Alumni Association of the College of Physicians and Surgeons, will be given at the New York Academy of Medicine, March 12-15. The subject of the first lecture is, "Thrombosis," and of the second, "Contracted Kidney."

First Aid Society Meets.—The Society for Instruction in First Aid to the Injured held its annual meeting February 11. Dr. Theron W. Kilmer was reelected medical director. The organization now has 27 classes in the churches, boy-scout clubs, and schools, and the work among the United States Volunteer Life Saving Corps is progressing.

Death Report Rules Changed.—The Health Department has adopted new rules for the reporting of deaths. Any cause of death which may be the result of an injury and consequently be the subject for investigation by the coroner, must have that fact stated in the death certificate. No certificate will be accepted which gives a mere symptom as the sole cause of death, such as asphyxia, debility, heart failure, etc., unless accompanied by a satisfactory written explanation. The Board of Health has also adopted a regulation forbidding earth burial in Manhattan south of 130th Street.

City Preparing to Clean House.—Health Commissioner Lederle has written to the mayor suggesting a thorough spring house cleaning for the city which shall include the following: Removal of all rubbish and dirt from the city, including thorough cleaning of cellars, roofs, yards and vacant lots; thorough cleaning of all streets; cleaning out catch basins; freeing the city as far as possible from smoke and cinder nuisances, from odors of offensive trades and the dust of streets; the better protection of food from the contamination of dust and flies; fighting the fly not by "swatting" but by prevention of breeding, and fighting the mosquito nuisance by eliminating the breeding places. The mayor has approved.

NORTH CAROLINA

New Hospital.—The Chamber of Commerce of Burlington has planned to erect a hospital at a cost of $30,000, and expects to have it ready to receive patients within a year.

New Officers.—Caldwell County Medical Society at the Foothills Sanatorium, Lenoir, January 22: president, Dr. A. B. Goodman; secretary-treasurer, Dr. C. B. McNairy, both of Lenoir (reelected).

Social Service Congress Organized.—The Social Service Congress of North Carolina held its first annual meeting in Raleigh, February 11-12. The opening address was delivered by Senator Robert L. Owens of Oklahoma.

Personal.—Dr. P. B. Orr has been elected visiting surgeon to the Mission Hospital, Asheville, vice Dr. William D. Hillard, removed to Washington, D. C.——Dr. Lewis W. Elias has been elected a member of the emergency staff of the hospital.——Dr. Otho B. Ross, Charlotte, is under treatment in an eye and ear hospital in New York City.

PENNSYLVANIA

Hospital News.—The new wing of the Spangler Hospit. [illegible] recently erected at a cost of $6,000 was o [illegible] ebrua [illegible] ——In the budget of appropriations for [illegible] n [illegible]

$18,000 appears for the Robert Packer Hospital, Sayre.——The McKeesport Hospital has asked a state appropriation of $105,000 for the coming biennium, $75,000 for maintenance, the remainder for completion and equipment of the nurses' home.

State Health Department Cuts Death-Rate.—In the early part of this month, Dr. Samuel G. Dixon, State Health Commissioner, made the statement that Pennsylvania, one of the most disease-ridden states in the union, because of its poor water, has in the past year reduced deaths from typhoid 62 per cent., from 4,000 to 1,200; and has reduced diphtheria deaths from 42 per cent. to 8 per cent., which insurance men have estimated saved them $10,000,000. Men are placed on all the watersheds of the state, removing pollution and all water companies are required to install filters before they can secure a permit to operate from the state board. All municipalities are compelled to keep their sewage clean and to obtain permits for all extensions. In discussing the care of tuberculous patients, Dr. Dixon spoke of Mount Alto Sanatorium on South Mountain, where there are 55,000 acres of land and where 1,067 patients are living in pure pine forests. The aim of the department is to cure all consumptives, who can be cured, and to segregate incurables.

Personal.—Dr. Edward B. Shellenberger, for ten years a member of the staff of the State Hospital for the Insane, Warren, has resigned and will practice in Philadelphia.——Dr. B. F. Shires, Patton, is a patient in the Medico-Chirurgical Hospital, Philadelphia.——Dr. Joel D. Brown, Oakes, resident physician at the Montgomery County Home, has been placed in charge of the institution at Black Rock.——Dr. Elizabeth C. Spencer, resident physician in the Women's Department of the State Hospital, Norristown, has resigned to take effect March 1.——Dr. Gustave A. Zimmerman, Johnstown, is said to be seriously ill in Chicago as the result of a pulmonary hemorrhage.——Dr. Louis S. Dunn, Chester, slipped and fell recently, injuring his right leg.——Dr. John A. Hawkins, Pittsburgh, was operated on for cataract, recently, and is reported to be improving.——Dr R. F. Ridgway has resigned from the staff of the Harrisburg City Hospital to accept the position of first assistant physician at the Pennsylvania State Hospital, succeeding Dr. Robert A. Stewart, who has accepted a similar position in the Iowa State Hospital, Mount Pleasant.

Philadelphia

Raises Medical Standard.—The executive committee of the council of the Medical School of the University of Pennsylvania has adopted resolutions that hereafter any student who repeats a year because of failure is ineligible to repeat another year later in the course. Hitherto the time for completing the course has been unlimited.

SOUTH CAROLINA

Medical College Made a State Institution.—A bill passed the South Carolina legislature February 7, transferring the property of the Medical College of the State of South Carolina, Charleston, to the state in trust, to control and operate. The control of the college is turned over to a board consisting of the governor, the superintendent of education, chairmen of two committees and eight members to be elected by the legislature. For the reorganization and for carrying on the work for the current year, $20,000 is appropriated. The medical college is to be strictly an independent state educational institution.

TEXAS

Change of Date of State Meeting.—The date of meeting of the State Medical Association of Texas at San Antonio has been changed from May 13-15 to May 6-8.

Personal.—Dr. Hugh L. McLaurin, Dallas, was reappointed a member of the State Board of Health, February 11.——Dr. William R. Newton, Buckholtz, has purchased Reese Park, Cameron, for $6,000 and will erect there a modern sanatorium to cost $40,000, one-half of the expense of which is to be borne by the city.

WISCONSIN

First County Sanatorium Opened.—The Manitowoc County Tuberculosis Sanatorium, erected at a cost of $15,000, was opened February 1. The building is a two-story "L"-shaped structure and can accommodate at present twelve patients.

Personal.—Dr. G. M. Smith, Mondovi, was operated on for appendicitis recently in the Sacred Heart Hospital, Eau Claire, and is making satisfactory progress toward recovery.——Dr. G. I. Hogue, Milwaukee, has been reelected treasurer of the Wisconsin State Association for the Blind.

Medical Office Building.—A site has been selected for a physicians' building for Milwaukee at the southeast corner of Wisconsin and Jackson streets. The building will probably be eight stories in height, of steel construction and the upper floors will be devoted exclusively to offices of physicians and dentists.

GENERAL AND FOREIGN

Conference on Life Insurance.—The third mid-year meeting of the Medical Section of the American Life Convention will be held at the Hotel Eastman, Hot Springs, Ark, February 26-28.

Missing Physician.—The *Canal Record* asks that anyone having information regarding the whereabouts of Dr. Moses Harold Lindenbaum, formerly of New York City, who is believed to be practicing medicine on the Isthmus, communicate with the American legation at Panama.

Child Labor Conference.—The ninth annual conference of the National Child Labor Committee will be held in Jacksonville, Fla., March 13-16. The general subject of child labor and poverty will be discussed in relation to wages, health, unemployment and the family. A feature will be the collection of pictures and charts regarding child labor, including the exhibit on "home work in the New York tenements."

Missouri Valley Physicians to Meet.—The twenty-fifth semiannual meeting of the Medical Society of the Missouri Valley will be held in Kansas City, Mo., March 20-21. The meetings will held at the Coates House, and symposiums have been arranged on cancer, rheumatism, the colon and genital tuberculosis in the female. March 22 a series of clinics is to be held at the various hospitals of the city.

International Congress on Ophthalmology.—The Twelfth International Congress on Ophthalmology will convene Aug. 11-15, 1914, at St. Petersburg, with Professor Angelucci of Naples in the chair. The president of the international executive committee is Prof. L. G. Bellarminof, Mochowaja 38, St. Petersburg, and on the committee from the United States are Drs. E. E. Blaauw of Buffalo, G. E. de Schweinitz of Philadelphia, A. Barkan of San Francisco and W. H. Luedde of St. Louis.

Health Work Expense.—In a statement forwarded to the Senate by the Secretary of the Treasury, February 12, in compliance with the terms of a resolution endorsed by Senator Works, it is stated that the annual cost of the health division of the War Department is $5,714,090; that of the Navy, $3,730,522; that of the Agricultural Department, $3,899,202, and the health service of Panama Canal, $1,620,891. There are together 15,632 persons in the employ of the various health services.

New Review on Industrial Hygiene.—A new monthly has appeared devoted to reviews of articles bearing on industrial hygiene, means of prevention and treatment of industrial accidents and occupational affections. It is backed by the institute for industrial hygiene at Frankfort-on-the-Main, and the editor-in-chief is Dr. F. Curschmann, Greppin-Werke, Kr. Bitterfeld. Its official title is the *Zentralblatt für Gewerbehygiene*. The opening number contains an article on the importance of industrial hygiene for the physician and the worker, as the borderland between medicine and technology; another on the dangers inherent in making rubberized goods, and one on post-traumatic mental and nervous affections.

Bequests and Donations.—The following bequests and donations have recently been announced:

Massachusetts General Hospital, Boston, $60,000 for free treatment of the insane at the McLean Asylum, Waverly, Mass., under the will of Sarah E. Cazenove.

Home Hospital, Lafayette, Ind., about $50,000 by the will of John Kyle.

Jefferson Hospital, $15,000 for the establishment of three beds, one in the surgical ward in memory of Phineas J. Horwitz, late medical director and surgeon general U. S. Navy, a second in the gynecologic ward in memory of Caroline Norris Horwitz and a third in the genito-urinary ward in memory of Orville Horwitz, by the will of Dr. Orville Horwitz.

Philadelphia Home for Incurables and the Home for Consumptives, Chestnut Hill, are made residuary beneficiaries of the estate of Mary M. R. Rand, valued at $21,000.

Troy (N. Y.) Hospital Association, $25,000 for the erection of a new building by the will of Peter McCarty.

Evanston (Ill.) Hospital, the income on $5,000 for maintenance of a free bed by the will of George M. Sargent.

New England Baptist Hospital, $250,000 for a building to be known as the Samuel Newell Brown Memorial Hospital; Brockton Hospital, $50,000 to be called the Franklin and Martha K. Ames Fund in memory of the testator's father and mother, $10,000 to the same institution in memory of the testator's niece, Charlotte Ames Gruver, to be used for the childrens' ward; $5,000 for the Home for Incurable Children, Boston, and $10,000 to the Cullis Consumptives' Home by the will of Mrs. Charlotte Thompson Ames Brown, Boston.

South Baltimore Eye, Ear, Nose and Throat Charity Hospital, $10,000 from Mr. William Grecht.

Philadelphia Polyclinic Hospital, $8,000 annually for research work in diseases of the skin, by an anonymous donor.

Methodist Hospital, Philadelphia, a contingent bequest of $5,000 under the will of Rev. John W. Sayres.

Jewish Maternity Hospital, Philadelphia, a contingent bequest of $10,000 by the late Julia Moss.

Jewish Hospital, Philadelphia, $50,000 for a surgical ward by the will of Samuel Kohn.

Presbyterian, St. Vincent's and Mt. Sinai Hospitals, New York City; each $25,000 by the late John J. Clancy.

New York Academy of Medicine, $10,000, anonymous.

Tuberculosis Preventorium for Children, $10,000 for the construction of a new school building, anonymous.

National Jewish Hospital for Consumptives, Denver, $50,000 for an infirmary building, from Samuel Grabfelder, Philadelphia, president.

For antituberculosis work in Georgia, $50,000 by the will of Capt. William Green Raoul.

New York Nursery and Childs Hospital about $16,000 by the annual charity ball.

New York Policlinic Hospital, $5,000 from Mrs. Russell Sage.

Mt. Sinai Hospital and German Hospital and Dispensary, New York City, each $40,550 for maintaining free wards, and Columbia University, $40,550 as the Openhym Research Fund, the income to be used for research into the cause, prevention and cure of cancer, by the will of Augustus W. Openhym.

CANADA

Fire in Hospital.—A fire in a hospital at Big River, Sask., February 4, caused a loss estimated at $20,000. The thirty patients were removed without casualty.

Personal.—Dr. C. N. E. Brown, Toronto, has been appointed superintendent of the new Detroit General Hospital.——Dr. Fred L. Burdon has been elected chairman of the London, Ont., board of health.

Improvements at Selkirk Asylum.—Changes and improvements are being made in Selkirk (Man.) Asylum along the lines indicated in the recent report of the grand jury. The scheme of improvements include the building of a convalscent home.

Small-Pox in Hamilton.—There are said to be 100 cases of small-pox in Hamilton and the situation is believed not to be improved by the friction said to exist between the medical health officer, who has practically ordered compulsory vaccination, and other members of the profession of the city.

Hospital News.—The contract for the tuberculosis hospital to be built at Union, Ont., by the Daughters of the Empire of Windsor, has been awarded. A site of 16 acres with a lake frontage of1,200 feet has been purchased and buildings are to be erected to cost about $25,000.——A new home for the Montreal Foundling and Sick Babies' Hospital is to be erected this year on St. Urbain Street at a cost of $60,000. Over $50,000 has been collected toward the building fund and the site has been secured at a cost of $40,000.——A new hospital is to be established by the sisters of the St. Eugene Hospital at Sturgeon Lake, B. C.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Feb. 8, 1913.

The National Insurance Act

In the House of Commons the chancellor of the exchequer, Mr. Lloyd George, in reply to criticisms, made an animated speech in which he asserted that the opposition to the insurance act was political rather than medical and was almost entirely confined to London. In spite of the agitation against it the act was working well. There were now 14,000,000 insured persons paying contributions regularly. Already 5,000 were receiving sanatorium treatment for consumption. The panel physicians numbered 13,000, or one physician for every 1,100 insured. One thing the act had brought to light was that the poorer districts were largely understaffed with physicians. A result of the act was that physicians were beginning to drift into those districts, and in future they would be as well paid there as in the well-to-do districts. With regard to the quality of the physicians working the act, in all the great industrial cities the vast majority of the physicians engaged in industrial practice were now on the list, and up to the present the number of complaints had been infinitesimal. Comparing this country with Germany, the chancellor said that here the benefits of the insurance had begun six months after the commencement of the levying of contributions, whereas in Germany two years were allowed to run.

THE BRITISH MEDICAL ASSOCIATION AND THE ACT: FINANCIAL DEFICIT

In obtaining modifications of the insurance act and in resisting it the British Medical Association has incurred considerable expense which seriously deranges its finance. In 1910, the year in which it was first affected by the act, it spent $25,000 more than in 1909. In 1911 it spent $50,000 more than in 1910, and in 1912 it spent $56,500 more than in 1911. Since the introduction of the act an additional expenditure of $180,000 has taken place. Of this sum from $25,000 to $30,000 was incurred in connection with litigation (described in previous letters to THE JOURNAL) which had nothing to do with the act. For the campaign against the act the association had to find $150,000 toward which it received about $67,500 from the guarantee fund. On the other hand, as the result of increased membership the revenue of the association has been increased by $10,000 per annum. The net result was that the revenue for 1912 is insufficient by $80,000 to meet the current expenses for the year. Much of the increased expenditure was due to the payment of railway fares for the members of the council and the representatives to the meetings which were constantly taking place in connection with the act. The fares for a representative meeting cost about $2,500. It was pointed out that if the association was to continue to concern itself with political questions it must raise sufficient funds to do so adequately.

GREATER FACILITIES FOR OBTAINING THE OPINION OF THE ASSOCIATION: A POSTAL VOTE

The unfortunate position in which the British Medical Association placed itself in its attempt to defeat the insurance act is now apparent to both friend and foe. Relying on the 27,000 pledges, the representative body decided by a large majority that the profession should not work the act. This was only an endorsement of the poll taken at the divisional meetings, in which 9,331 members and 1,888 non-members voted in favor of refusing to work the act, while 1,963 members and 445 nonmembers voted against this decision. It was pointed out in my previous letters that this poll did not include half of the whole profession, which numbers 31,000. A controversy arose as to whether the voting represented the opinion of the majority of the profession. Some maintained that the large abstention showed that it did not, while others pointed out that the exigencies of practice and other causes prevented a fuller attendance, and that therefore the poll was representative. When a few days after the refusal of the association to work the act the government was able to announce that nearly half of the profession had gone on the panels, it became evident that a large proportion of the absentees must have been against the refusal to work the act. The mortifying sequel then followed in which the association formally released the profession from a pledge which half of them had already ignored. The reasons for justifying the ignoring of the pledge have been given in previous letters to THE JOURNAL. The insurance committee of the association has asked the council to consider in what way it may be possible to obtain the views of the profession more quickly and accurately than by the divisional meetings which are attended usually by a minority of the members. A postal vote has been suggested. Discussing the question in the *British Medical Journal*, the president of the association, Dr. Henry Davy, admits that there is a strong consensus of opinion that recent events have shown that the representative meeting may completely fail to represent the majority of the profession. That this might happen under a constitution under which a large proportion of the busiest practitioners throughout the country have to travel distances from six to forty miles in order to have a voice has already been foreseen. The president thinks that the association can never be successful in formulating a policy for the profession until every physician, no matter how busy, has an opportunity of recording his opinion as to what the policy of the association should be before it is declared. A postal referendum is one way of solving the difficulty, but the president does not think that it can be solved by this alone. The question is, How can the busy physician living from six to forty miles from his divisional center have a voice in the policy of the association before it is declared? If he is deprived of his opportunity of giving his voice he will not feel bound to carry out the policy. The president suggests the following changes in the constitution of the British Medical Association: 1. Every division should choose its representative by a postal vote. 2. A representative should speak and vote at a representative meeting in accordance with the wishes of his constituents, but a plan should be devised to replace the present haphazard system un[illegible] which a representative may receive i[illegible]s f[illegible]eting attended by perhaps less than 1[illegible] of t[illegible]s of a division. He suggests that a [illegible] be competent to "instruct" its [illegible]t two-thirds of the members [illegible] association is a very serious act, and the council in preparing the agenda which it issues for the information of members should state in plain and unmistakable language the matters on which formal decisions fixing the policy of the association are to be invited. If a sufficient number of members of a division cannot attend the meeting of the division, then the representative of the division who has been elected by the postal vote, which gives every member a choice in his selection, should be free to speak and vote in accordance with his judgment after hearing the arguments in the representative meeting. 3. The council should have the power of taking a postal referendum on the principle embodied in the Swiss constitution on all matters which they cannot settle by a two-thirds majority.

The Compulsory Notification of Tuberculosis

A new order for the notification of tuberculosis has been issued by the Local Government Board. Previously notification was confined to pulmonary tuberculosis. Now it is extended to all forms of the disease. Every physician will henceforth be required to make a "primary" notification of tuberculosis to the health officer of the district, for which a fee of 50 cents will be paid. Medical officers of institutions, such as hospitals, asylums, poor-law institutions, and sanatoriums are under the same obligation as private practitioners. In addition they are required to make "secondary" notifications for all admissions and discharges of patients suffering from tuberculosis. Under the present system the officers of institutions merely notify the local authority. Health officers are required to take such steps as are necessary for investigating the source of infection, preventing the spread of infection, and removing conditions favorable to infection. Nothing in the regulations authorizes any action which renders the person notified liable to penalty or subjects him to any restrictions, prohibition or disability affecting himself or his employment on the grounds of his suffering from tuberculosis. As more than half of the deaths from non-pulmonary tuberculosis occur in children under the age of 5 years, and it is probable that a much higher percentage of the total number of persons suffering from non-pulmonary tuberculosis are children of this age, the government hopes that notification of these cases will facilitate investigation of sources of infection and assist in securing improvement in the conditions under which children live. The effect of the new regulations combined with the vast provision for the sanatorium and other treatment of tuberculosis mark an important advance in the campaign against tuberculosis.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Jan. 31, 1913.

The Connection of Bernheim and Dieupart with Dioradin

In an interesting recent lawsuit, light was thrown on the methods of the promoters of Dioradin. (This product was discussed in The Journal, Aug. 24, 1912, p. 669, and Oct. 26, 1912, p. 1556.) For four years Dr. Louis Dieupart was head physician of the dispensary for the tuberculous established at Saint-Denis by the Oeuvre de la tuberculose humaine, at the head of which is Dr. Samuel Bernheim. A falling out between the two physicians ended in the dismissal of Dr. Dieupart, owing to Dr. Bernheim's instruction to his colleague to use Dioradin. Dr. Dieupart protested, on the ground of the inefficacy of Dioradin. At the trial he testified that Dr. Bernheim received a commission on all Dioradin used at the Saint-Denis dispensary. He sued for 5,000 francs ($1,000) as damages for abrupt dismissal. He lost the case, as the court held that a distinction must be made between a municipal hospital and a dispensary founded and maintained by private charity. In the hospital the physician, chosen at a meeting, enjoys full liberty in treatment and the choice of drugs, while in a private clinic or in a dispensary, as that at Saint-Denis, he is under the direction of the president of the charitable society and must follow his instructions. Be this as it may, those who brought this suit are not at all in favor of Dioradin and its promoters.

Knighthood in the Legion of Honor Conferred on Madame Déjerine-Klumpke

Among the appointments made to the Legion of Honor, that of Mme. Déjerine-Klumpke deserves special notice. Mme. Déjerine, born Klumpke, was the first woman to receive an appointment as intern in the hospitals at Paris; she received this at the meeting in 1886. She married Dr. Déjerine, now clinical professor of diseases of the nervous system at the Faculté de médecine de Paris, and in collaboration with him published the "Anatomy of the Nervous Centers." She had already won distinction by her researches on the radicular paralyses of the brachial plexus and on polyneuritis. One of the types of radicular paralysis has been named after Mme. Déjerine-Klumpke.

Cause of the Death of Jean Jacques Rousseau

The recent celebration of the bicentenary of Jean Jacques Rousseau called attention anew to the cause of the death of the celebrated philosopher. Every conceivable hypothesis has been entertained on this subject. It was at first thought that he died a natural death of serous apoplexy; ten years later he was considered a suicide; then he was held to have been murdered. The last-named opinion was lately advanced by Dr. Julien Raspail, who owns the death mask executed by the famous sculptor Houdon. Now Dr. A. Lacassagne, professor of legal medicine at the Faculté de medecine de Lyon, has published an article in which he presents convincing proofs of the natural death of Rousseau, based on information which is possessed concerning the nature of the last illness of the philosopher, and also on a careful study of the death mask which he was able to examine with Dr. Raspail. Lacassagne is of the opinion that Rousseau did not commit suicide and that he was not the victim of an assassin: he died of uremia. The attack of uremia was terminated by an accidental fall, which caused a wound in the head. This wound in itself was not serious enough to cause death as it was superficial and made no depression in the skull. In fact, the report of the exhuming of the remains of Rousseau, made at the Pantheon, Dec. 18, 1897, stated that "the skull was intact, with no trace of perforation or fracture." Conclusively, Rousseau died a natural death attended with an accident. The suddenness of his death was not due to the accident.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 1, 1913.

Foreigners as a Problem of German Universities

The strike of medical students at Halle, which I have mentioned several times in my letters, has stirred up the question of foreign students in other universities also, in which similar measures as in Halle have been adopted. This circumstance has also caused the organization for the first time of the clinical students in Berlin. In a meeting which was attended by about eight hundred students, the insufficient accommodation in the local clinics and the difficulties resulting from this lack of space for the German students were discussed. The number of foreign medical students in the last semester is reported as about six hundred, including about four hundred Russians. It is not the intention to limit German hospitality toward foreigners, but to prevent German students from being put to any serious disadvantage on their account.

The fact that the measures adopted by foreign universities, especially the Russian, against the admission of German students are considerably more severe than those employed by us, is also of great weight. The demands presented by a student of Halle, as a representative of the society of German clinical students (Deutscher Klinikerverband), are as follows: 1. The foreigners must bring with them a government certificate corresponding to our certificate admitting one to the university. 2. At matriculation they must present a passport issued by the authorities of their respective countries. 3. The permission for practice as well as for the admission to doctors' examination shall be conditioned on the presentation of a German certificate as to an examination in the German language. 4. Only those foreigners who have passed a preliminary physicians' examination or an equivalent of such will be allowed to practice. 5. The number of foreigners must be proportionally limited (this should not be interpreted as an arbitrary, limited number, but as a limitation according to the circumstances of the individual university). 6. The foreigners are to pay double fees. 7. The foreigners are not to be granted a respite in paying their registration fees. 8. They must record their names in a special list, so that the authorities may be able to investigate whether or not they possess the right to practice. 9. Foreigners may be considered for the positions of assistants only after the native students have been given consideration. There is the further requirement that the first four rows of seats in the lecture-rooms be reserved for the native students. The foreigners may not select their places until two weeks after the commencement of lectures. These resolutions have been adopted and will be passed on (no certain date for this has yet been set) to all the other faculties.

Mortality in Prussia

As compared with 1910, the year 1911 shows a marked increase of mortality in Prussia. On July 1 there were on the average among each thousand inhabitants 17.2 deaths (excepting the still-born) against 16 in 1910, which indicates an increase of nearly 7 per cent. The mortality of infants has increased as compared with the previous year by about 16 or 17 per cent., a fact which is especially worthy of notice if the already high infant mortality—of over three hundred among each thousand infants—is considered. The death-rate among persons over 80 years of age shows a similar increase. In all other age periods a slight increase has also been noticed. The number of deaths varies considerably in different districts; on the whole, the mortality is higher in the east than in the west. This increase of mortality is especially alarming in connection with the surprisingly rapid decrease of births.

Physiology in Medical Examinations

According to the old order of examinations, physiology was considered one of the most important subjects in the preliminary examinations; present examination in physiology has been completely omitted, and instead of it more practical subjects have been added. As the German physiologic association has stated in a petition directed to the department of education, the standard of physiologic training of physicians has been essentially lowered by this change, which was clearly shown by the sad experience in examinations in physiology for the medical degree. There are two causes for this. In the first place, it is a fact repeatedly stated by older physicians that the meaning of many physiologic phenomena for medical practice is not understood by physicians to the full extent until they possess the knowledge which they have gathered in pathology and the clinics. On the other hand, by limiting the examination in physiology to the preliminary test, the impression is created beforehand among students that when this examination is once passed, the training in physiology is accomplished and that it is best to forget all physiologic matters as quickly as possible so that the brain may be free for pathology and clinical practice.

If no further examination in physiology is required in the state examinations, the need of considering physiologic facts during and after the acquisition of pathologic and clinical experience is eliminated. In this way, however, the standard of scientific education of physicians is sinking, as physiology is one of the central sciences in all branches of medicine. For this reason the petition pleads that in summing up the results of medical and dental examinations, physiology should have the same value as anatomy. In reestablishing physiology among the subjects of the state examination, the error of the older order may be corrected, which was caused by giving the preference to anatomy and physiology above all others. In the old days the candidate had to pass the examination in anatomy and physiology first. Only after these were successfully passed, was he allowed to report for the rest of the examinations. As a result of this, the candidates for examination prepared themselves first exclusively for anatomy and physiology, anatomy taking up most of the time on account of its enormous material necessary to be memorized. This error can easily be avoided in reestablishing physiology in state examinations.

Cases of Appendicitis in Prussia in 1911

Appendicitis was the cause of a marked increase of deaths in Prussia in 1911. There died of this disease 2,547 persons, as compared with 2,220 in 1910 and 2,128 in 1909. The increase amounted to 327, or 14.7 per cent., while in 1910 an increase of only 92, or 4.3 per cent. was noted. The age between 5 to 25 years is represented with special frequency among the mortality statistics. With the increasing years the number of deaths caused by appendicitis is smaller. While among all the deceased in 1911, only 1.46 per cent. were between the ages of 10 and 15 years, among those who died of appendicitis 10.72 per cent. were of these ages. The same is true of those who died between 15 and 20 years of age. The percentage of all deaths in this age is 2.37, while deaths caused by appendicitis amount to 10.29 per cent. On the other hand, in the period between 60 and 70 years the percentage of all deaths is 11.30, and 6.16 per cent. of the deaths are caused by appendicitis; in the period from 70 to 80 years the percentages are 12.21 and 4.20, respectively.

Manufacturers Attempt to Lower the Standing of Physicians

When the German physicians founded their Leipsic League and pointed out the difficulties which were arising from the state sickness insurance, the Krankenkassen asserted that these conditions were solely due to the great number of physicians. However, as the majority of physicians became members of the Leipsic League, it consequently grew to be difficult for the Krankenkassen which were in conflict with physicians to find doctors willing to work, in spite of their large number. The wholesale manufacturers who had established branches of the industrial sickness insurance tried by means of newspaper notices to direct the attention of as many young people as possible to studying medicine. Experience had taught them that the greater the number of unemployed, the easier the problem for the employer. The physicians, however, considering that their profession is actually overcrowded in Germany, published explanatory articles particularly directed to the gymnasium graduates in order to dissuade them from studying medicine. The association for the maintenance of interests of the German industrial sickness insurance, the Verband zur Wahrung der Interessen der deutschen Betriebskrankenkassen, is trying to frustrate these efforts of physicians. The association held it necessary to address a petition to the department of education, in which it is pointed out how few physicians there are at present and that this deficiency will be still worse in the future. A request is made in this petition that attempts to dissuade students from the study of medicine be forbidden in the institutions of learning, and also that the names of the next gymnasium-graduates be not published. It is hardly to be expected that the department of education will comply with this request.

Organization of the Dentists

Like physicians and members of other professions, the dentists have thought it advantageous to institute a professional organization which is recognized by the state. By an imperial decree, a Prussian dental chamber was established the latter part of December, to be located in Berlin. The business of the dental chamber will be to attend to all affairs and questions which arise in connection with the dental profession, especially the education of dentists, the interests of the dental profession and dental hygiene. The chamber will be authorized to make suggestions and propositions within its field of activity to the state authorities; the state authorities shall give it opportunity for expressing opinions on questions referring to dentistry. The members of the dental chamber will be elected separately by provinces. The provincial police district of Berlin represents its own voting district. Each voting district elects two members. If the number of voters reaches 200, then three members may be elected, and for each further 200 one more member. The president who represents the chamber publicly is elected by the members of the chamber.

Establishment of a Municipal Housing Bureau in Berlin

In order to alleviate and gradually eliminate the bad conditions which are found in the dwellings of Berlin, the city council has decided to establish a new organization for the supervision and inspection of buildings, which will begin its activity during this year. At the head of this new organization is put a committee on housing conditions. The foremost task of this committee will be to investigate and explain the existing conditions of the housing system in Berlin, so that improvements can be made where necessary. Another very important practical task incumbent on the committee is to learn how the oversight and inspection of housing conditions are already carried on in a number of other cities, for instance Frankfort-on-the-Main. Efforts are to be made in the interest of tenants and landlords that conditions in the dwellings be brought to a certain standard and thus maintained, so that evils may be eliminated. Although it is not the function of a municipal housing bureau to extend financial help to those affected, the city council thought it advisable to help temporarily, to a certain extent, where bad conditions are found which are not caused intentionally and where a reference to charity is out of place. There is no appropriation made for this purpose from the public funds; however, employment of endowments appears advantageous and unobjectionable. Cooperation of citizens is contemplated through the organization of special housing commissions, corresponding to the medical districts. It is intended to bring the committee into existence on April 1, while the housing bureau will not begin its activity until October 1, after all necessary preliminary work is finished. The cost of the complete project, not including rent and other similar expenses, will amount to about $25,000 (100,000 marks). For the year 1913 an appropriation of $22,500 (90,000 marks) will be included in the budget. A motion to this effect will be made at the [illegible] city council meeting.

Miscellany

Hypnotics, Analgesics and Antipyretics

The propaganda against the abuse of habit-forming remedies, especially those recommended for the relief of pain, has tended to create a desirable caution in the mind of both physician and patient. At the same time there is presented the serious problem to determine which will be likely to do the greater harm, the temporary administration of an analgesic or the continuance of the pain. There is a point at which the physician must decide which is the lesser of two evils, continued nervous irritation or functional damage from the action of the medicine. Insomnia should be removed if possible by hygiene, but if this fails, hypnotics may often be employed with advantage. By many it is regarded as preferable to lower an excessive temperature by antipyretics, if other means fail, rather than to permit the patient to become exhausted by the fever and its consequences. On the other hand, the remote consequences of an antipyretic should always be borne in mind. According to Manquat's "Principles of Therapeutics" (p. 102), antipyrin even in benign affections sometimes prolongs the disease. This author gives the following excellent advice:

"The physician must therefore observe the delicate features of symptomatic therapeutics if he wishes at once to safeguard the interests of the patient and his own authority. A conscientious and learned physician, who sees farther than the symptom, will do well to explain his conduct when he does not combat a symptom. By virtue of his solicitude for the patient and his knowledge of nosography, which enables him to foresee the prognosis, he can persuade his patient to accept the probable evolution of the disease. He will generally (not always!) have the satisfaction of being understood and be able to palliate only the most marked symptoms, while watching the functional disturbances in order to correct them at the opportune moment, and lead the patient to recovery.

"On the other hand, the physician should not systematically refuse a symptomatic measure. A patient who has already profited, or believes he has profited, by the soothing of a symptom through a certain treatment, should not be deprived of the same treatment unless there be good reasons for hoping for better treatment or else fear of some inconvenience. In this respect there is a general rule. As it is always well to let patients speak, even when they speak a great deal, because by speaking they give themselves up and by listening to them we study them and know them better, so it is well, in therapeutics, to be informed by them and take into account their experience of the medicines, without, however, overlooking the possibilities of autosuggestion. This is particularly true as regards the employment of purgatives, sedatives and hypnotics. It is also wise to consider the mentality of certain persons and not to insist on correcting their errors. What is the use of fatiguing a patient by unprofitable discussions? Is it not more sensible to give him the satisfaction of an infinitesimal dose, incapable of any harm, and let him profit by the nervous dynamism which the joy of hope and assurance is capable of arousing?"

Disease Prevention in the Canal Zone

Nearly every one is familiar in a general way with the excellent sanitary work done by the medical authorities in the Canal Zone. In the *Scientific American*, Nov. 9, 1912, Dr. A. J. Orenstein, of the department of sanitation, gives some interesting figures concerning yellow fever and malaria, showing the effect of mosquito extermination. The *Stegomyia calopus*, the yellow fever mosquito, was attacked first by methods which he describes, including the installation of public water-supplies in the cities, and the breeding-places of the *Stegomyia* were practically destroyed. From having been the most numerous species of mosquitoes in Panama and Colon in 1905, the *Stegomyia* has now become the species least frequently encountered. A *Stegomyia* mosquito is now hard to find. The results of this work were soon manifested, as the following figures will show: From July 1, 1904 to June 1, 1905, 77 cases of yellow fever originated on the Isthmus; in June, 1905, 62 cases; in July, 42; in August, 27; in September, 6; in October, 3; in November, 2; December (in Colon), 1. During 1906 there was only one case of yellow fever on the Isthmus, in Colon. Since then not a single case of yellow fever has occurred on the Isthmus, although a continuous influx of non-immunes is taking place.

Malaria was next attacked. Orenstein says that malaria is a disease that undermines a man's health insidiously and lowers his working efficiency to an extent not approached by any other disease with the possible exception of hookworm. After describing the methods employed in the eradication of the anophelines mosquito, which are quite different from those employed in attacking the yellow fever insect, he says that these measures, conscientiously and painstakingly carried out, resulted in reducing the number of malaria cases treated in the hospitals from 6.83 per cent. of the working force per month in 1906 to 1.53 per cent. of the working force per month in 1911, and the death from malaria among employees from 233 in 1906 to 47 in 1911. In 1906 a good deal of preventive work had already been accomplished. What malaria would have done to the working force, had conditions remained as they were in 1904, is indicated by the fact that among 150 U. S. marines stationed at Empire in the Canal Zone in 1904, 170 cases of malaria developed in four months. In addition to the measures employed in reducing the mortality and morbidity from these two dangerous diseases, the steps taken to provide the employees working on the canal with comfortable quarters and wholesome food and recreation, Orenstein says, undoubtedly contributed greatly to the health of the employees as is illustrated by the history of pneumonia among the negroes. In 1906, before provision had been made to feed the laborers, and when housing had not been brought up to the present standard, a number of cases of pneumonia occurred among the negro laborers. The mortality from pneumonia was 413 in 1906 and 328 in 1907. A board appointed to study this disease recommended that the laborers be fed by the government and that certain improvements in their housing be made. When these recommendations were carried into effect the number of cases of pneumonia immediately diminished. In 1908 there were but 93 deaths; in 1909, 70; in 1910, 73, and in 1911, 94.

From An Australian Visitor.—Through the courtesy which is extended so warmly to all visitors, I had the opportunity of inspecting the home of the American Medical Asssociation in Chicago, of being present at the annual meeting at Atlantic City, and of there conveying to the House of Delegates of the Association the invitation of the . . . Australasian Medical Congress. . . . The organization of the American Medical Association is very thorough. . . . Its history has not been smooth, but it has found itself, and during the last ten years the development has been amazing. . . . It has become abundantly clear in Australia that our small congress cannot satisfactorily transact business when sitting as a whole. The American Medical Association remits all business matters to a body known as the House of Delegates, which comprises about 150 members, that is, approximately one delegate to every 500 members. . . . It is this separation of the purely scientific from the business side which is, in my judgment, giving the Association such strength. The delegates are sufficiently numerous to be thoroughly representative, and can divide into committees and appoint external committees for many diverse purposes. At Atlantic City the perfection of the organization was obvious. The House of Delegates sat continuously while the scientific business was transacted elsewhere. . . . The facts relating to the Association are worth recording. The home is a seven-story fire-proof building in Chicago, which provides accommodation for a modern printing office, chemical laboratories for food and drug testing, administrative offices, an educational department and a complete index department, and thus we find among the activities of the Association the establishment of a record of the career of every medical student and practitioner, so that in future the professional career of a medical man will be followed and recorded step by step. Furthermore, the organization and the work done by every medical school in the country is inspected and recorded, and the facts are published. It is largely owing to this sagacious step that so many inferior schools have been closed and others have raised their standards. Any practitioner desiring information about any "patent medicine" or drug can obtain it promptly. Those, for example, who wish to know the composition of Odol, the value of Sanatogen, or the therapeutic value of serums, have simply to write and at once learn what they are using. In other words, a rational therapy is in sight. The Association has dealt with the "patent-medicine" problem. If any manufacturing firm wants to advertise in THE JOURNAL, the nature of the compound must be disclosed . . . and verified. Every testimonial given by a medical man to a drug-house is recorded and examined. On the "quacks" a straight-out warfare is waged by a proper method of simply publishing the facts. Furthermore, the Association periodically produces a bulletin of useful medical information and forwards it to the lay press of the United States, so that the public may know in a proper way what is occurring in the medical world. These achievements have not been effected without opposition, and references have been made to the "Great Medical Trust," and so forth. The public has cause to understand, however, that the game is being played honestly and intelligently. Among other work done are propaganda for the prevention of blindness, institution of health day in the schools, when lectures are given by medical men, the establishment of a modern museum of safety appliances, and the organization of postgraduate work. . . . Is there any reason why we in Australia should not build up an analogous organization? . . . Is there any reason why, in Melbourne, we should not have suitable buildings, with a permanent staff, and in a similar way emulate our American brethren?—Dr. James W. Barrett, Melbourne, in *Australian Medical Journal.*

Quackery in England.—The answer to that question [protection to human beings] reveals a state of affairs that constitutes a blot on our national intelligence. Any ignorant person, such as a farm laborer, a blacksmith or a hairdresser, may claim to cure any disease under the sun, and may, without fear of punishment, do to death any one foolish enough to trust his nonsensical claims. As a matter of fact, many quacks make large or even princely incomes, whereas the average medical practitioner lives and dies a poor man. Think of the irony of that situation! Imagine a young man in search of a career asking advice of a candid senior as to the prospects of medical practice. "My dear sir," might well be the reply, "if you want a simple competency you will, sooner or later, acquire that as a general practitioner, or, after some longer years of waiting, you may secure a much larger income as a specialist or consultant. Truth compels me to add, however, that as a bone-setter, or as the universal provider of cures by physical exercises, or as the proprietor of a nostrum, you may within a few years attain a huge fortune. Needless to say, neither of these unlicensed methods demands a particle of study, whereas at least five years of hard work and the expenditure of a large sum of money are needed to secure a medical qualification."—*Med. Press and Circular.*

Tropical Residence and Copious Water-Drinking.—The late Dr. Paul C. Freer, in a study of the effects of tropical sunlight (*Philippine Journal of Science*), arrived at two interesting conclusions concerning residence in the tropics and the use of water by soldiers on the march. He believed that in a climate like that of the Philippines, with the sea modifying the extremes of temperature, and with a large proportion of cloudy weather, the white man, by taking proper precautions, should not find it deleterious, and need only seek the shade to avoid danger from even the greatest insolation. Soldiers on the march or other persons compelled to spend much time in the sunlight should wear white underclothing and helmets and should be supplied with an abundance of safe water, the two canteens allowed the soldiers not being sufficient, in Freer's opinion, to maintain a proper equilibrium of body fluids, allowing sufficient perspiration to carry away the excess of body heat. Likewise copious water-drinking in any country in hot weather, with free perspiration, tends to reduce discomfort from excessive heat. The vice of iced drinks is that they are too cold to be taken into the stomach in large enough quantities for free and cooling perspiration, and their coldness defeats the very purpose for which they are taken—to cool the body.

Marriages

MARCUS DENIS CRONIN, M.D., Albany, N. Y., to Miss Helen Margaret Doyle of Syracuse, N. Y., in Watervliet, N. Y., February 1.

JOSEPH A. VALENTA, M.D., Iowa City, Ia., to Miss Maud Claire Katzenmeyer of Lone Tree, Ia., at Iowa City, February 4.

WILLIAM HERBERT PEARCE, M.D., Baltimore, to Miss Sarah Francis Ferguson, at Charleston, S. C., February 4.

JACOB CASSON GEIGER, JR., M.D., Berkeley, Cal., to Miss Florence Gourrier of Alexandria, La., January 30.

ALFRED W. BRINHAM, M.D., Scalp Level, Pa., to Miss Wilhelmina Meyer of Wellersburg, Pa., January 29.

CHARLES ROBERT MULLONG, M.D., Norfolk, Neb., to Miss Ethel C. Givens of Sioux City, Ia., January 11.

FREDERICK WILLIAM LAMB, M.D., Cincinnati, to Miss Ninon Lenox Traver of New York City, January 29.

RALPH WALKER MCDOWELL, M.D., U. S. Navy, to Miss Ruth Noyes of Washington, D. C., February 17.

ANDREW F. TUTTLE, M.D., Spray, N. C., to Miss Daisy King Jones of Ridgeway, Va., January 30.

L. LAFAYETTE BOND, M.D., Denison, Ia., to Miss Florence Faulkner of Helena, Ark., recently.

JOHN GEORGE JOHNSON, M.D., to Miss Emma Bellows Roe, both of Brooklyn, February 7.

PHILLIP H. STEWART, M.D., to Mrs Lula Lincoln, both of Paducah, February 3.

Deaths

Henry Downes Geddings, M.D. Medical College of the State of South Carolina, Charleston, 1880; for seven years assistant surgeon-general, U. S. P. H. Service; died at his home in Washington, February 13, from cerebral hemorrhage, aged 54. After his graduation Dr. Geddings practiced for eight years before entering the public service. He was an assistant surgeon from 1888 to 1892, serving in the Marine Hospital at Stapleton, Staten Island, and at the Key West (Fla.) Quarantine. He received his promotion to passed-assistant surgeon in 1892 and while in this grade, served at the South Atlantic Quarantine and at Washington; he was made surgeon in 1904 and from that time until 1909 was retained on duty in Washington, later being ordered to Naples, Italy, which was his last station. He was an excellent administrative officer and a veritable genius in the organization and administration of quarantine camps established during epidemics. Dr. Geddings was a member of the American Medical Association, represented his service at three international sanitary conventions and was a delegate from his service to the International Congress on Hygiene and Demography. On his return from Italy, Dr. Geddings was taken ill with cerebral embolism and never regained his health thereafter.

Francis F. Corson, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Medical Society of New Jersey; at various times a member of the staff of Kirkbride's, the State Hospital for the Insane, Trenton, and the Home for Feeble-Minded Women, Vineland, N. J.; first physician in charge of the State Hospital for Epileptics, Skillman; for ten years a resident of Bridgeton; died suddenly from heart disease, February 1, aged 65.

Benjamin Forbes Graham, M.D. Starling Medical College, Columbus, O., 1865; a member of the American Medical Association; a veteran of the Civil War and [illegible] of the oldest specialists on diseases of the eye [illegible]neapolis; di[illegible] suddenly at his home in that [illegible] [illegible]m influe[illegible] aged 73.

Lewis W. Steinbach, M.D. Jefferson Medical College, 1880; a member of the American Medical Association; professor of surgery in the Philadelphia Polyclinic; recorder of the Philadelphia Academy of Surgery; visiting and consulting surgeon for the Philadelphia and Jewish hospitals; noted for his work among Hebrew charitable institutions; died at his home in Philadelphia, February 10, from pneumonia, aged 61. The resolutions of the members of the staff of Mount Sinai Hospital remark on Dr. Steinbach's continual self-sacrifice in his "devotion to the poor and sick at whose appeal he was ever ready to respond. His conscientiousness and energy . . . were an inspiration to us all."

Edward Hanna Small, M.D. University of Pennsylvania, Philadelphia, 1885; formerly a member of the American Medical Association, and chairman of the Section on Pediatrics in 1895; first member elected in the Pittsburgh Academy of Medicine and the founder of its library; lecturer on pediatrics, Western Pennsylvania Medical College; physician to the Pittsburgh Home for the Friendless and a member of the staff of the Pittsburgh Hospital for Sick Children and the South Side Hospital; prominent in all professional activities—scientific, sociologic and philanthropic; died in Saranac Lake, N. Y., February 3, from tuberculosis, aged 52.

Thomas Overton Meredith, M.D. Baltimore Medical College, 1887; of Harrodsburg, Ky.; a member of the American Medical Association; local surgeon at Harrodsburg for the Southern and Cincinnati, New Orleans and Texas railways; formerly president of the Central Kentucky Medical Association and president of the City Bank of Burgin, Ky.; died at a hospital in Rochester, Minn., January 30, after a surgical operation, aged 49.

John W. Dal, M.D. Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association and Chicago Medico-Legal Society; for many years an esteemed practitioner of northwest Chicago; aged 58; died at his summer home in West Olive, Mich., February 14, from carcinoma of the tongue and throat, for which operation had been performed a year ago at Wesley Hospital.

Henry Francis Ballard, M.D. Rush Medical College, 1882; a member of the American Medical Association; for thirty years a practitioner of Chenoa, Ill., and for nearly fifteen years secretary of the board of education; died in St. Francis Hospital, Peoria, February 7, two weeks after an operation for perforating ulcer of the stomach, aged 60.

William Beattie Nesbitt, M.D. Trinity Medical College, Toronto, Ont., 1887; president of the Farmers Bank of Toronto which failed in 1910; formerly a member of the Ontario legislature; a veteran of the Riel Rebellion and registrar of West Toronto; died at his home in Toronto, February 1, from nephritis, aged 45.

Thomas Gulick Birch, M.D. Yale Medical School, 1865; Harvard Medical School, 1866; surgeon of U. S. Volunteers during the Civil War and later a medical officer in the British Service in India; one of the founders of St. Luke's Hospital, Newburgh, N. Y.; died at his home in that city, February 1, aged 75.

Augustus R. Wright, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; of Lumpkin, Ga.; a member of the Medical Association of Georgia; died in the Pilcher Hospital, Brooklyn, N. Y., January 29, after an operation for decapsulation of the kidney for interstitial nephritis, aged 46.

Eli James Smith, M.D. University of Michigan, Ann Arbor, 1878; a member of the American Medical Association; for the last twenty years a practitioner of Neenah, Wis.; was found dead in a bathroom in the Theda Clark Memorial Hospital in that city, January 31, from heart disease, aged 56.

Peter Willett, M.D. Western Reserve University, Cleveland, 1860; surgeon of the One Hundred and Eighty-Second Ohio Volunteer Infantry during the Civil War; for forty-seven years a practitioner of Elmore, O.; died at his home, January 2, from disseminated sclerosis, aged 79.

Hamlin Smith, M.D. Medical College of Ohio, Cincinnati, 1860; since 1863 a resident of Brownstown, Ind.; postmaster for eleven years; deputy U. S. Revenue Collector from 1864 to 1866 and deputy U. S. Marshal in 1870; died at his home in Brownstown, January 28, aged 74.

Charles Allen Peterson, M.D. College of Physicians and Surgeons, New York City, 1884; a member of the Hawaiian Territorial Medical Society; died at his home in Honolulu, January 2, from septicemia, aged 57.

William Green Clark, M.D. University of Tennessee, Nashville, 1903; died at his home near Goodlettsville, Tenn., January 19, from pneumonia, aged 32.

Coleman Nathaniel Clark, M.D. University of Buffalo, N. Y., 1865; a member of the American Medical Association; for more than thirty years a practitioner of Winona County, Minn.; at various times health officer, alderman or member of the board of education of St. Charles; died at his home in that place, January 30, from influenza, aged 73.

Henry Goodwin MacKaye, M.D. Harvard Medical School, 1885; a member of the Rhode Island Medical Society and for nearly twenty-five years a member of the board of trustees of the Newport Hospital; died at his home in Newport, February 2, aged 56.

George W. Taylor, M.D. Syracuse Medical College, Eclectic, Rochester, N. Y., 1853; one of the oldest practitioners of Princeton, Ill.; for many years a minister of the Christian Church; died at his home, January 26, from senile debility, aged 97.

Arthur Stanton Fletcher, M.D. Tufts College, Boston, Mass., 1906; a member of the Maine Medical Association and secretary of the Waterville Clinical Society; died at his home in Waterville, January 31, from bronchial pneumonia, aged 31.

Edward Pius O'Donnell, M.D. University of Pennsylvania, Philadelphia, 1906; a member of the Medical Society of the State of Pennsylvania; died at the home of his father in Heckscherville, February 2, after a long illness, aged 34.

Clarence W. Zurcher, M.D. College of Physicians and Surgeons, Baltimore, 1911; an intern for fifteen months thereafter at Mercy Hospital, Baltimore; died at his home in Leetonia, O., Dec. 27, 1912, from scarlet fever, aged 25.

Samuel Newton Burgen, M.D. Keokuk (Iowa), 1868; formerly of North Topeka, and a member of the local board of health; died at his home in Oklahoma City, Okla, December 2, from cerebral hemorrhage, aged 71.

William Wormley, M.D. Jefferson Medical College, 1883; formerly a practitioner of Lancaster, Pa., and later a druggist in Philadelphia; died at his home in the latter city, January 29, from pneumonia, aged 60.

William D. Brown, M.D. University of Louisville, Ky., 1894; formerly of Slaughtersville and Julian, Ky.; died at his home in Hopkinsville, Ky., January 27, from the effects of an overdose of morphin, aged 63.

Frank A. Hausneck (license, Missouri, 1900); a practitioner since 1863; formerly of Kansas, but for twenty years a resident of St. Louis; died at his home, January 30, from cirrhosis of the liver, aged 76.

William Bazaliel Carpenter, M.D. Long Island College Hospital, Brooklyn, 1886; a member of the State Medical Association of Texas; died at his home in Mart, February 4, from pneumonia, aged 64.

Edward H. Parker, M.D. Hahnemann Medical College, Chicago, 1879; a member of the American Medical Association; died at his home in Eau Claire, Wis., February 8, from heart disease, aged 57.

Isaac B. Sensenig, M.D. Bellevue Hospital Medical College, 1869; a member of the Medical Society of the State of Pennsylvania; died at his home in Harrisburg, February 5, from dropsy, aged 65.

William Francis Decker, M.D. Jefferson Medical College, 1878; for more than twenty-five years a practitioner of Philadelphia; died at his home in Newfoundland, Pa., January 26, from pneumonia.

William Sandel, M.D. New Orleans School of Medicine, 1858; for more than half a century a practitioner of Ouachita Parish, La.; died at the home of his son in Monroe, January 29, aged 74.

David William Jump, M.D. University of Michigan, Ann Arbor, 1872; a member of the Will County (Ill.) Board of Supervisors; died at his home in Plainfield, about February 3, aged 65.

Helen Amanda Goodspeed, M.D. Eclectic Medical College of the City of New York, 1870; died at her home in Worcester, Mass., January 23, from diabetes, aged 69.

Kate B. Peterson, M.D. Bennett Medical College, Chicago, 1885; died at her home in Chicago, January 20, from sepsis, due to a phlegmon of the leg, aged 76.

William Espey Srofe, M.D. Cincinnati College of Medicine and Surgery, 1892; died at his home in Norwood, O., January 12, from intestinal toxemia, aged 40.

Curtis R. Willson, M.D. University of Louisville, Ky., 1856; of Ola, Ark.; died, January 16, at the home of his son in Ola, from senile debility, aged 84.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

SUPPORTING THE COUNCIL

What One Editor Thinks of the Matter

The letter given below has been received from an aggressive member of the American Medical Association who recognizes the evils that afflict our profession and desires to fight them. He is the editor of a medical journal that is owned by one of the state medical societies and one, it is needless to say, that is supporting the Association in its fight against fraud in proprietary medicines. In other words, no advertisement of proprietary medicines is acceptable to the journal he edits unless such remedies have been passed on and approved by the Council on Pharmacy and Chemistry for inclusion in New and Nonofficial Remedies. We believe the reading of his letter—which, by the way, was a personal one—will bring some of the apathetic ones to a realization of the problems that beset us. Here is the letter in part—of course it was not intended for publication:

". . . I do not believe that you realize just what the conditions are in the smaller communities. In your position it is easy to think that everything is going along in a satisfactory manner, for I presume that you do not come in contact to any great extent with the evils of the profession. [On the contrary, we do realize to the fullest extent the conditions to which our correspondent refers. The editor of a medical journal can hardly remain in ignorance of the abuses that have crept into the medical profession, even if he would. In fact, the doctor himself recognizes the vantage-point he, as an editor, has in learning the unpleasant things within the profession.—Ed.] It is easy for men who have good positions or practices to be rather self-satisfied and give little attention to the evils and inconsistencies that exist on every hand. Were it not for my position as editor probably I would be numbered among the apathetic ones, for I have more than I can do in a professional way and prosperity always has a tendency to make a man easy-going. . . .

"Then the question of supporting the Council on Pharmacy and Chemistry is another one which merits more consideration than we have given it. [We think so, too.—Ed.] I do not believe that we are justified in making such strenuous efforts to reform the daily press and protect the public until after we have cleaned up our medical journals and made an effort to protect the public from the evils of incompetency and dishonesty in the medical profession. [The very thing that we have been hammering on to the point of weariness.—Ed.] The only criticism I have of The Journal A. M. A., is its lack of nerve in attacking some of these problems that confront us. [The Journal is seldom accused of lack of nerve; it is more often charged with having too much!—Ed.] The Journal A. M. A. is the best medical periodical in the world without exception. [The doctor's judgment is unimpeachable.—Ed.], and it has done a remarkable amount of reform work, but it has only touched the edges of evils in the medical profession. [This is true.—Ed.] . . .

"Concerning this question of support of the Council, it is no wonder that Parke, Davis & Co. and some other manufacturers feel that the Council's work is not counting for much when leaders in the profession are positively ignoring the work of the Council. [Just what we have been saying for years.—Ed.] I know of a number of prominent physicians who are prescribing some of the preparations that have been condemned by the Council . . . [So do we, we are sorry to say.—Ed.]

"So far as I am personally concerned I am through with temporizing, and the 'kid glove' manner of handling the vital subjects. I propose to hit the nail on the head when I know that I am right. [May he have the hammer of Thor.—Ed.] I do not desire a libel suit on my hands, but when I have the facts I shall publish them if I think the information will help the medical profession. It is a little hard for the average editor to look over the advertising income and do the right thing at the expense of the purse, but I think the medical profession should be given to understand that such effort is to be supported or else the medical profession should cease to own and operate medical journals. [No doubt about it.—Ed.] . . .

"The state journals that are trying to do the right thing are having a struggle. They need all the support and encouragement that they can obtain. The support they obtain from their own state associations is very faint-hearted and lacking that sincerity and enthusiasm that makes for good. [Unfortunately, this is true.—Ed.] I do not believe that very much, if any comment would be offered if I lowered the bars and ran my journal the way that some other state journals are run." [This also, we may sorrowfully admit. Right here lies our weakness. The work of the Council on Pharmacy and Chemistry and the attitude of those medical journals that are supporting the Council, are, apparently, too far ahead of the procession. The position they take is looked on by physicians as utopian, when it should be considered a matter of course. When the average physician—and it is the *average* physician who counts—views the proprietary evil in its true light, it will be a pleasure to conduct a medical journal with a due regard for decency. At present it is a "demnition grind."—Ed.]

THE LAY PRESS AND THE NOSTRUM EVIL

What Some Editors and Publishers Think of It

Hardly a day passes that we do not receive letters from editors, publishers or advertising managers asking for information about this, that or the other "patent medicine" or quasimedical device. We believe that it will prove both interesting and instructive to the readers of The Journal if we give portions of some of the letters that we are receiving so frequently. Here are some quotations from letters picked out at random:

Mr. Robert S. Walker, Chattanooga, Tenn., president and managing editor of the *Southern Fruit Grower*, wrote, in part:

> "We thank you very much for the book which you recently sent us entitled, 'Nostrums and Quackery.' We have been using our energies trying to educate our readers to the dangers in patent medicines, and in this, we have succeeded very well. We are in hearty sympathy with your efforts for suppressing this evil, and wish you much success."

The editor of another journal devoted to fruit-growing, Mr. E. H. Shepard, Hood River, Ore., writes regarding his publication, *Better Fruit:*

> "I want, personally, to thank you for your book on nostrums, etc., and in reply would say that we do not carry any 'patent-medicine,' quack-doctor or nostrum advertisements, neither any other questionable advertising."

Nor are the city dailies behind, as the following letter from Mr. E. G. Lee of the *Minneapolis Journal* testifies:

> "I am interested in the censoring of advertising of these medicines, and believe that your reports would contain just the information that I am looking for."

And this, also, regarding the *Detroit Times*, written by Karl D. Murchey:

> "Our attention has been called to the publications of the American Medical Association and we believe that we could make good use of the pamphlets that have been issued from time to time if you will send us a set."

While religious journals, as a class, were, a few years ago, among the worst offenders in the acceptance of fraudulent advertising, some of them have always rejected such material while others have thrown it out as soon as the matter was brought to their attention. The following from a letter by Mr. Fitzgerald S. Parker, editor of the *Epworth Era* tells its own story:

> "I thank you very much for your recent letter giving me information concerning Foso Co., who are seeking entrance to the pages of the *Era* for advertising. Your information in this and similar cases has been of important service in enabling us to keep undesirable advertisements out of the *Era*."

And this by Mr. J. Pressly Barrett, editor of the *Herald of Gospel Liberty:*

> "The Vitae-Ore pamphlet you sent has not yet been received. I hope it will yet come, as I am [illegible] the facts. I do not like to trouble you so often, [illegible] to rid our paper of every unworthy adver[illegible] I can find unworthy."

The following from R. E. Skelton of *Sunset Magazine* shows what effect one of The Journal's many articles on medical frauds had:

> "In your issue of Feb. 10, 1912, you published an article on Plapao, which latter, I believe, has been proved a fake.
>
> "You no doubt have seen the advertising in our magazine and I am very desirous of having this bogus advertising taken out of our columns. For that reason won't you mail me the issue mentioned so that I may send it to our home office; in that way we can get rid of the only objectionable advertising carried by *Sunset*.
>
> "I can assure you that had we known he was a bogus advertiser his ad. would never have appeared in our columns."

The advertising pages of the better class of farm journals have for some time been remarkably clean. The following letter from Mr. John M. Stahl, president of the Illinois Farmer Company is particularly well worth reading. The closing paragraph expresses, tersely and forcibly, the whole problem:

> "We notice that in your last bulletin you commend a certain religious paper because it does not insert patent medicine or fraudulent advertising. The paper that thus carefully guards its advertising columns is entitled to your commendation, and you should know that very nearly every farm paper thus guards its advertising columns.
>
> "For more than twenty years past, it has been the settled policy of the *Illinois Farmer* and *Farmer's Call* not to insert any advertising that will cheat or offend any of its readers, and it goes to all members of the family. *Of course we do not insert any medical advertising.*" [Italics ours.—Ed.]

What newspapers in the smaller cities can do to protect the public, is illustrated by this letter from Mr. J. Frank Keeley, advertising director of the *Four States Press*, Texarkana:

> "For a number of years I have steadfastly refused to handle advertising from grafters and others of their ilk, purporting to have a cure-all for such diseases as are commonly recognized as incurable, and recently declined to accept a rather large advertising contract for the 'United Doctors' and was instrumental in having the evening paper here also decline to accept this advertising. The result is that the 'United Doctors' did not come to Texarkana."

It is such matter as this that makes the fight seem worth while. If the same degree of interest were exhibited by the publishers and editors of medical journals the "ethical proprietary" evil would be well on the way toward solution as the "patent medicine" evil already is.

DIGIPOTEN—WHAT IS IT?

A correspondent, who wishes to sign himself "A Pharmacist Subscriber," writes:

"What is Digipoten? Has it been passed on by the Council on Pharmacy and Chemistry? An advertisement states:

> "It contains several active glucosids of digitalis leaves, practically without a trace of inert matter.

"Further on the same advertisement states:

> "Dissolved, it makes a beautiful, green fluid.

"The last statement reads much as if Digipoten was merely another name for a powdered extract of digitalis, but as the green coloring matter of digitalis is not medicinally potent, so far as I know, it does not agree with the first claim quoted.

> "We standardize it (by tests on the frog) to an exact strength, so the doctor may regulate the dosage to a nicety, avoiding dangerous cumulation.

"How does the standardization by frogs help the doctor to 'regulate the dosage to a nicety?' And then, too, is it possible that the manufacturer of Digipoten—the Abbott Alkaloidal Company—really places any dependence on frogs when in years gone by it has preached that only clinical results were worth while? If the Abbott Alkaloidal Company standardizes this digitalis preparation has it possibly also undertaken to standardize its other heart drug, Cactin?

> "Its chemistry being done, it does not irritate and distress the stomach as the fluid preparations so often do.

"'Its chemistry being done' is almost artistic, provided you read it sufficiently rapidly; but as for sense or meaning, I fail to find any. Besides, is *it not* a proved fact that its effect on the stomach is a property of the digitalis principles themselves?

> "It is not 'cumulative.'

"Is this not a rank falsehood? The reason I ask these questions is that I fear that the advertisement contains a misprint and that the statement 'See that your druggist is stocked' probably should read 'See that your druggist is stuck.'"

Digipoten seems to be *an ordinary extract of digitalis diluted* with sugar of milk. It has not been accepted by the Council on Pharmacy and Chemistry. Evidently "A Pharmacist Subscriber" is not familiar with the fact that many statements occurring in the literature advertising proprietaries are not to be taken too seriously. Of course digitalis glucosids are not of a beautiful green color, but glucosids in pure form are rather expensive and difficult to prepare, while an extract is comparatively easy to make and inexpensive. In calling attention to this really harmless, beautiful, green color the manufacturers of Digipoten seem willing to make a virtue of necessity. While Digipoten is not claimed to be more active than digitalis, it sells at a little more than $40 a pound wholesale, or *one hundred times the price of digitalis leaf of equal activity.* "Its chemistry being done," etc., is merely one of those statements which appear so frequently in advertisements of this sort, and to which no particular meaning is to be attached. At any rate, the facetious comments of our correspondent serve quite as well as any we can offer.

TURNER OBESITY CURE—MR. TURNER EXPLAINS

The following letter received from the titular head of the "Dr. Turner Co.," throws further light on the methods of that concern:

> On June 22, 1912, an article appeared in The Journal of the American Medical Association dealing with a fraudulent obesity cure concern, the "Dr. Turner Company" of Syracuse, N. Y. May I ask you to publish the following facts to show my very slight connection with the company that bore my name and to show also that I was not wilfully guilty of wrong-doing?
>
> In 1909, E. Virgil Neal [of the Tokalon Company] asked me to write a short article on obesity. It was to be based on personal experience and was not written as a medical treatise, since I am not a physician, the title M.D. being added to my name by the Syracuse concern. Neal purchased my article on a royalty basis by contract. My impression was that it would be sold as a booklet and I had no idea that it would become part of a fraudulent "obesity cure." I did not at the time fully comprehend the terms of the contract which gave the right to use my name in the business but to me no control of the business methods. Indeed, it distinctly stipulated that I should have nothing whatever to do with the management and conduct of the business.
>
> After getting my article, Neal "revamped" it and added the sensational features. The various adjuncts to the "system" including the "Concentrated Food Tablets," etc., were developments of his fertile brain and were entirely absent in the matter given him. In the early part of 1912, the advertising of the "Dr. Turner Co." was called to my attention. It was so fraudulent that pressure was brought to bear and the "Dr. Turner Co." was wound up, all advertising discontinued and a refund of money to any dissatisfied customer was agreed on.
>
> Francis M. Turner, Pittsburgh, Pa.

Mr. Turner's letter is a verification of The Journal article. It was there stated that he was "but a figurehead in the obesity company that bears his name" and that E. Virgil Neal (alias X. La Motte Sage) was the evil genius that controlled the "Dr. Turner Company." This letter further bears out the supplementary statement made by us in the new edition of "Nostrums and Quackery," namely, that pressure had apparently been brought to bear on the "Dr. Turner Company" so that it was no longer advertised in the United States. The fraud, however, is still being advertised, or was a few weeks ago, in that lush and verdant field for discredited American medical fakes, the British Isles.

Patent Medicines and Public Health.—While much that is now sold in the drug-stores represents merely a harmless or sometimes useful physician's prescription, the aggregate result of the "patent medicine" is the building up of gigantic systems of robbery on the one hand and a corresponding damage to public health on the other.—David Starr Jordan, *Science.*

Correspondence

Gerster's Disapproval of the Haslam Traction Bar

To the Editor:—My article, describing a turnbuckle and clamp method for reducing fragments of fractures of long bones in the open operation, was considered by you worthy of an abstract in the Current Medical Literature Department (THE JOURNAL, Nov. 30, 1912, p. 2002). It may therefore interest your readers for me to serve notice for their protection *that an instrument put on the market and called by some* "Haslam's or Haslam's modification of Gerster's" (traction bar) and called by others "Gerster's traction bar," does not fulfil the requirements outlined in my article.

JOHN C. A. GERSTER, M.D., New York.

A copy of the letter given above was sent to the manufacturer referred to, who replies:

To the Editor:—We designed our instrument but one of our competitors copied it and called it Gerster's traction bar. We will continue to sell our traction bar, but we will not call it by any other name than Haslam's. We thought it a compliment to Dr. Gerster to call it Haslam's modification of Gerster's traction bar, but since he objects we will drop his name and take it all ourselves, being the rightful owners.

FRED HASLAM & CO. INC., Brooklyn, by JOHN J. DOUGLASS.

Phylacogens

To the Editor:—I am pleased with the editorial in the Feb. 1, 1913, issue on "Phylacogens." While I was an intern at the Boston City Hospital, I assisted Parke, Davis and Company's agent to administer the "filtrates" to a number of patients. In *the majority of cases, I saw no marked improvement.* The type of case that improved with "filtrates" had improved with the same rapidity under ordinary hospital treatment. In some cases relapses occurred under filtrates with such a marked increase in symptoms that the patients refused to receive any more injections. The company's representative appeared unduly enthusiastic over his results. His aim seemed to be that of gathering brilliant clinical results at any cost. There was no check put on his results in the form of control cases.

H. J. CRONIN, M.D., Cambridge, Mass.

P. S.—I assume that "Phylacogens" is the proprietary name for the "filtrates" of gonococcus, streptococcus, etc.

Misstatement Concerning Phylacogen

To the Editor:—I wish to correct, through your columns, a statement which occurs in Parke, Davis and Company's *Therapeutic Notes*, Special Phylacogen Number, January, 1913. On page 56, it is said that Phylacogens were discussed at a meeting of the Fayette County Medical Society, Connellsville, Pa., June 18, 1912. On that date the physicians of Connellsville were invited by a local druggist to assemble in the parlors of the Arlington Hotel to hear a talk on "Serums and Vaccines." About a dozen attended and were plentifully supplied with cigars, beer and Phylacogen claims by one of Parke, Davis and Company's hired men.

The Fayette County Medical Society held no meeting in June, 1912, and has at no time discussed Phylacogen or any other proprietary medicine.

E. B. EDIE, M.D., Connellsville, Pa.
Secretary, the Fayette County Medical Society.

The Role of Prevention.—In the future of medicine, the mere removal of disease must play more and more a subordinate part. Most disease can be prevented. Above all therapeutics stands sanitation. It is possible to remove causes of disease long before any disease begins. It is possible to heal our patients long before they are sick. Our knowledge in many fields is now adequate for this result. No one can be attacked by an infectious disease unless we have somehow or other permitted the infection.—David Starr Jordan, *Science.*

Association News

THE MINNEAPOLIS SESSION

Announcement of the Local Committee for the Next Annual Session of the Association

Dr. Frank C. Todd, chairman of the local Committee on Arrangements for the next annual session of the American Medical Association, in Minneapolis, June 17-20, announces the following physicians as officers of subcommittees. All communications to this committee or to any of the subcommittees should be addressed to 1106 Donaldson Building, Minneapolis, where a clearing-house has been established for all matters pertaining to the arrangements for the session.

COMMITTEE ON	CHAIRMAN	SECRETARY
FINANCE	George D. Head	Earl R. Hare
CLINICS	James E. Moore	A. C. Strachauer
ENTERTAINMENT	T. S. Roberts	J. F. Avery
OUTSIDE EXCURSIONS	H. H. Kimball	John H. Morse
SECTION ENTERTAINMENT	A. E. Wilcox	R. T. LaVake
SCIENTIFIC EXHIBITS	Thomas G. Lee	Fred L. Adair
AUTOMOBILE DRIVES	E. C. Robitshek	C. E. Dutton
REGISTRATION	Arthur T. Mann	A. S. Hamilton
HOTELS	S. Marx White	E. J. Huenekens
HALLS AND MEETING-PLACES	H. E. Robertson	J. W. Bell
POST-OFFICE AND PHONES	C. A. Donaldson	C. C. Maland
ALUMNI MEETINGS	Richard J. Hill	E. K. Greene
PRINTING	J. G. Cross	E. S. Strout
ALLIED MEETINGS	Horace Newhart	W. H. Condit
PRESS AND PUBLICITY	Richard A. Beard	
PROGRAM	John W. Bell	E. J. Huenekens
WOMEN PHYSICIANS	Eleanor Hill	Laura Lane
RECEPTION AT RAILROADS	F. A. Knights	M. J. Lynch
COMMERCIAL EXHIBITS	C. H. Bradley	A. E. Hedback
GENERAL HOSPITALITY, INFORMATION AND ATTENDANCE	A. E. Benjamin	C. H. Keene
LOCAL TRANSPORTATION	A. H. Parks	E. A. Moren
PRESIDENT'S RECEPTION	A. A. Law	Henry W. Cook
SECTION MEETINGS	J. P. Sedgwick	A. E. Johann
LADIES' ENTERTAINMENT	Mrs. W. A. Jones	
ST. PAUL ENTERTAINMENT	J. W. Chamberlain	
ST. PAUL FINANCE	T. W. Stumm	C. E. Smith.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LIABILITY FOR OBSTETRIC OPERATION WITHOUT THE CONSENT OF THE HUSBAND

To the Editor:—In delivering a woman, if the physician sees fit to use instruments, does he have to secure the consent of the husband? Should the husband not consent, would the physician be held legally responsible for the consequences? H.

ANSWER.—The law recognizes no difference between an obstetric operation and a surgical operation. The consent of the patient to an operation is, of course, necessary, if she is conscious or in a condition to give or withhold consent. If she is unconscious or for any other reason unable to decide, then the consent of the husband or next of kin must be obtained if possible. If the woman agrees to the operation, the husband has no right to withhold his consent. The Court of Appeals of Maryland in the well-known case of Janney vs. Housekeeper says: "The husband has no right to withhold from his wife the medical assistance which her case might receive."

It is hardly proper to say that a physician is legally responsible for the consequences of an operation. The law holds that anyone undertaking to render medical services as a physician or surgeon must possess a reasonable degree of knowledge, skill and experience; he must exercise ordinary care and diligence and he must use his best judgment in all cases of doubt as to the best method of treatment. He is liable for damages resulting from lack of knowledge, skill or experience, from negligence or from poor judgment. In the case of any obstetric operation his liability is just as great when the husband has given his consent as when that consent is withheld.

It should be remembered that when an injury is done to the wife there is a double cause of action. One lies in favor of the husband for the loss of her services and society during the time she was suffering from the injury and also for the cost of nursing and caring for her while ill. The other is in favor of the wife for the injury inflicted on her to compensate her for the suffering caused thereby.

A suit for malpractice may be brought against a physician on the most flimsy pretext in cases in which there is no reasonable ground for complaint and may cause him much inconvenience and result in considerable harm to his reputation. Should a physician operate on a woman without the consent or against the veto of her husband, he would incur more risk of a malpractice suit. For this reason, it is always desirable for an operator to secure the consent of the husband as well as that of the wife. Consent should not be limited to any specific operation but should include any operation deemed necessary by the physician. It is advisable to have a nurse or some other witness for the physician present when the arrangement is made.

It is possible, however, that a physician may feel compelled to operate without the husband's consent. Suppose a case of cord prolapse with a head presenting in the pelvis; the cervix dilated and all other conditions favorable for a forceps extraction. The patient consents but the husband absolutely refuses. There is no time for a long discussion. The life of the child is at stake. To save the child the physician may feel compelled to operate in spite of the opposition of the husband and the risk of a malpractice suit. In such cases he undoubtedly would be sustained by the courts.

CAUSES OF EXFOLIATION OF THE EPIDERMIS

To the Editor:—In what diseases is there a dermatitis which is followed by very general exfoliation?

During an epidemic of "sore throat" a man with a beginning tonsillitis produced contused penetrating wounds over both tibiae by striking them against the axle of his automobile. Portions of the clothing and dirt from the axle were in the wounds. The tissues became inflamed for 2 inches around these wounds, and the feet and ankles would pit on pressure, but there was no swelling above the wounds. The tonsillitis—of which he had had many attacks—was very severe, and of the follicular character. Three days after the injury, and five days after the beginning of the tonsillitis, the feet became scarlet. When the foot was lifted from the bed the skin became pale—abnormally so. When the foot was again put on a level with the body it again became scarlet. This redness gradually spread over the entire body. Except in its scarlet hue the eruption—if it could be called an eruption—did not resemble scarlet fever, neither was the tongue characteristic of scarlet fever; but, about ten days after the patient recovered from the tonsillitis, and while the wounds were still unhealed, exfoliation became general. T. L. D.

Answer.—Exfoliation of the epidermis may occur from any cause which results in an acute hyperemia of the skin. The process is usually thought of in connection with the so-called eruptive fevers or exanthems, but it also follows drug eruptions, thermic exposure, etc., in short, the hyperemia causes it. And anything which causes the hyperemia of the skin naturally is the cause of exfoliation. Under this head come the acute infectious diseases, many skin diseases, belladonna and other drug eruptions. The case in question looks like a scarlatiniform dermatitis from some drug, probably an iodin application, such as iodoform or orthoform.

ANESTHOL

To the Editor:—I wish to obtain some information regarding the anesthetic "Anesthol," referred to in the recent "Anesthesia Number" of The Journal (Nov. 23, 1912). Where can I get it? Is it being used to any extent in the North? Druggists here seem to know nothing about it. Jamas M. Moser, M.D., Washington, D. C.

Answer.—A mixture of ethyl chlorid, ether and chloroform termed Anesthol was described by Willy Meyer in The Journal, Feb. 28, 1903, p. 553. Anesthol was stated to be composed by volume, of 17 per cent. of ethyl chlorid, 35.89 per cent. of chloroform and 47.10 per cent. of ether. A further discussion of the use of Anesthol by the same author appeared in The Journal, March 7, 1903, p. 642. The mixture, according to Dr. Meyer, is not proprietary, but one which any pharmacist may put up. We are not aware that it has come into general use.

TRANSMISSIBILITY OF BRIGHT'S DISEASE

To the Editor:—Will you kindly inform me through The Journal where I can find literature, or articles published, concerning the theory that Bright's disease is either an infectious or a transmissible disease? Is Bright's disease so considered?

Henry A. Jones, M.D., Howard, R. I.

Answer.—We find no references in recent literature dealing with Bright's disease as an infectious or transmissible disease. It is not so considered.

AGE OF PARENTS AS A FACTOR IN HEREDITY

To the Editor:—Could you give me references to literature on the influence that the age of parents may have over the mental heredity of their children? J. H.

Answer.—The literature on this subject is usually included in articles or works with titles which do not indicate this special topic.

Lapage in his book on "Feeble-Mindedness in Children of School Age" says:

> The age of the mother may have some effect, but many deficient children are born early in the family. Mongolian imbeciles are often the last children of a large family, and it has been suggested that this condition is the result of a wearing out of the reproductive powers of the mother by repeated pregnancies.

E. L. Hunt, in his article on "Hereditary and Congenital Causes of Exceptional Development," in the Proceedings of the Exercises and Conferences of the National Association for the Study and Education of Exceptional Children, April 1, 1910, says:

> Most authors agree that the relative age of the parents at the time of conception is a factor. Duncan, for instance, was of the opinion that premature and late marriages were influential in the production of idiocy. Langdon Down found that in one-quarter of the idiots which he examined there was a disparity of more than ten years in the ages of the parents. I am of the opinion that a man produces better, stronger and more intellectual posterity before 40 rather than after. I believe that this is so because the average city dweller is a better man physically before 40. I believe that a great disparity in years has some slight detrimental effect. These are two causes, however, which do not play any great part in the etiology of the subject. . . .
>
> Primogeniture is often spoken of as a factor. I do not believe that the first-born child is more apt to be the weak-minded one than the last-born. But I do believe that if there is a defective hereditary factor it will be more apt to appear in the eldest and in the youngest than in the intermediate children. This is probably to be accounted for by the fact that the reproductive powers of the mother in the case of the first-born child are not well established; in the last, have begun to flag.

THE RELATION OF MODERN EDUCATION TO DYSTOCIA

To the Editor:—In view of the fact that modern education is conducive to increase of the difficulties of parturition by causing a greater average in the size of the child's head, without an increase in the pelvis, would it be advisable to terminate pregnancy from seven to twenty days before term? Can you advise me of any literature on the subject? M.D., Anaheim, Cal.

Answer.—This question is an illustration of illogical mental processes—assumption of false premises and drawing unwarranted conclusions. There is no evidence that modern education has any more tendency to increase the size of the child's head than the education of former times. If education did increase the size of the child's head there is no reason to believe that the enlargement would be transmitted to offspring. It is generally believed that acquired characteristics are not transmitted. Could it be shown that the average size of the child's head at birth is greater for any reason than formerly, it would not follow that the female pelvis had remained stationary. It is quite possible or even probable that the pelvis as well as the whole skeleton would also increase in size. Hence there is no reason for the question regarding the induction of premature labor as a routine practice. The indications for inducing premature labor in cases of contracted pelves and other pathologic conditions are given in all text-books on obstetrics.

BLUMBERG'S SIGN IN APPENDICITIS

To the Editor:—Can you tell me something about Blumberg's sign in appendicitis? E. C. Brush, M.D., Zanesville, Ohio.

Answer.—This is the short, acute pain which is felt by the patient when the hand pressed over McBurney's point is lifted suddenly. It occurs in all forms of peritoneal inflammation. In active peritonitis one will find that the pain caused by the pressure of the hand on the abdomen is less than that caused by the sudden removal of the pressure; on the other hand, during the subsidence of the inflammatory process, the pain of pressure is greater than that produced by sudden relief of pressure.

NO STOMATITIS NEED BE EXPECTED DURING LACTATION

To the Editor:—I occasionally see an anemic, debilitated, middle-aged woman suffering from some apparent intestinal condition, giving a history of having had "nursing sore mouth" at some time or other, so diagnosed and treated by an older physician. Is there any condition that would cause, particularly during the lactation period, any special form of stomatitis or gastritis in the mother? J. N. H.

Answer.—So far as we can learn, no special condition of the kind mentioned is recognized.

VOLKMANN'S ISCHEMIC PARALYSIS

To the Editor:—Please give me literature, published since 1906, on Volkmann's ischemic paralysis or contracture.

C. J. HABHEGGER, M.D., Watertown, Wis.

ANSWER.—The following may be referred to:

Huntington, T. W.: Ischemic Paralysis and Contraction Treated by Bone-Shortening, *Cal. State Jour. Med.*, July, 1907.
Powers, Charles A.: The Ischemic Paralysis and Contracture of Volkmann, THE JOURNAL, March 2, 1907, p. 759.
Boynton, Frances N.: A Case of Volkmann's Paralysis and Contracture, THE JOURNAL, May 18, 1907, p. 1675.
Sayre, R. H.: Volkmann's Ischemic Paralysis and Contracture, *Am. Jour. Orthop. Surg.*, November, 1908.
Allen, C. W.: Case of Volkmann's Ischemic Paralysis, *New Orleans Med. and Surg. Jour.*, January, 1909.
Thomas, J. J.: Nerve Involvement of Ischemic Paralysis and Contracture, *Ann. Surg.*, March, 1909.
Taylor, A. S.: Volkmann's Ischemic Paralysis, *Ann. Surg.*, September, 1908.
Ayyagi, T.: Ischemic Paralysis, *Deutsch. med. Wchnschr.*, Feb. 1, 1912.
Goett, H.: Prevention of Postoperative Ischemic Paralysis, *Zentralbl. f. Chir.*, Feb. 10, 1912.
Burianek, B.: Postoperative Ischemic Paralysis, *Wien. klin. Wchnschr.*, Feb. 29, 1912.
Kausch, W.: Ischemic Paralysis, *Zentralbl. f. Chir.*, April 13, 1912.
Powers, C. A.: Fourth Account of a Previously Reported Case of the Ischemic Paralysis and Contracture of Volkmann, THE JOURNAL, May 11, 1912, p. 1436.
Lauenstein, C.: Prophylaxis of Ischemic Paralysis, *Zentralbl. f. Chir.*, May 25, 1912.
Sayre, R. H.: Treatment of Volkmann's Ischemic Paralysis and Contracture by Method of Robert Jones, *Am. Jour. Orthop. Surg.*, May, 1912.
Hull, R. L.: Ischemic Paralysis, *Jour. Oklahoma State Med. Assn.*, September, 1912.
Orve, H. W.: Simple Operation for Relief of Deformity in Certain Cases of Volkmann's Paralysis, *Am. Jour. Orthop. Surg.*, November, 1912.

PRACTICE OF MEDICINE AS A LIFE-WORK

To the Editor:—Please give references which will be of assistance in preparing a talk on the practice of medicine as a life-work.

C. L. N.

ANSWER.—The following may be consulted:

Baum, W. L.: The Medical Profession and the Public, *Illinois Med. Jour.*, July, 1908.
Cathell: The Physician Himself, F. A. Davis Co., 1914 Cherry Street, Philadelphia.
Lawbaugh: The Physician, His Duties and Relation to the Profession, *Jour. Michigan State Med. Soc.*, Detroit, October, 1909.
McWhorter: Relation of Medicine to Other Professions, *Alabama Med. Jour.*, Birmingham, May, 1909.
Morrison, I. T. J.: Aspects of Medicine as a Profession, *Brit. Med. Jour.*, Oct. 14, 1911.
Wilson, J. C.: The Relation of the Medical Profession to the People, *Med. Fortnightly*, Nov. 10, 1911.
The Medical Profession, *Med. News*, April 16, 1904.
The Practice of Medicine as a Career, The Army and Navy Medical Service (and a number of other articles of interest to the student), *Med. Rec.*, New York, April 24, 1909.
The Third Annual Report of the Carnegie Foundation, Washington, D. C., discusses medicine as a business and as a profession, ideals of the profession, etc.

THE PAN-AMERICAN MEDICAL CONGRESS

To the Editor:—Please tell me where I can obtain information regarding the Pan-American Medical Congress at Lima, Peru?

D. C. B., M.D., Omaha.

ANSWER.—THE JOURNAL published notices of this meeting, June 1, 1912, p. 1698, June 22, p. 1964, and November 2, p. 1636. Dr. Ramon Guiteras, 80 Madison Avenue, New York, is the secretary of the International Executive Committee. Members of the committee at Lima are Drs. D. Alvarez and P. Espada. Dr. Julian Arce of Lima, Peru, is president of the section on medicine. Dr. E. Odriozola, also of Lima, is president of the National Academy of Medicine of Peru. The meeting will be held Aug. 3-10, 1913, in connection with the fifth Latin-American Medical Congress and the Congress on Hygiene.

COMPOSITION OF FOLIN AND MACALLUM'S URIC ACID REAGENT

To the Editor:—Please give the composition of the uric acid reagent used by Folin and Macallum in the process described in the abstract published in THE JOURNAL, Jan. 11, 1913, p. 161.

J. H. S.

ANSWER.—This reagent is a phosphotungstic acid prepared by boiling 100 gm. of sodium tungstate with 80 c.c. of 85 per cent. phosphoric acid and 750 c.c. of water for a few hours and then diluting to one liter. This formula was published by Folin and Denis in the *Journal of Biological Chemistry*, 1912, xii, 239.

OPEN TREATMENT FOR BURNS

To the Editor:—Please explain what is meant by the "open treatment for burns"; what are its advantages and how is it carried out? Is my understanding correct that absolutely nothing is put on the burn—that it is merely washed and left open to heal?

E. S. DUPUY, M.D., Summerlee, W. Va.

ANSWER.—The uncovered skin is left exposed to the air, blebs are removed, the area gently dried, dusted with stearate of zinc or other bland-dusting powder, and fanned to hasten drying and the formation of crusts. The unburned portion of the surface should be bathed and cleansed often, and the temperature of the room should be high in order to favor the action of the skin. The air must be kept as pure as possible and the utmost cleanliness maintained about the bed linen and everything else that comes in contact with the patient to guard against infection. The patient is quickly relieved of pain by this method of treatment.

The question was answered in this department of THE JOURNAL, Aug. 18, 1906, p. 529, and Sept. 22, 1911, p. 1076, but an article by Dr. Haldor Sneve of St. Paul, July 1, 1905, p. 1, took the matter up in detail. There was an editorial comment in the same issue, page 48.

CAUSE OF HAIR-SPLITTING IN HYPERTRICHOSIS

To the Editor:—Please give me some information as to the possible cause of the terminal splitting of the hair of a woman's head in hypertrichosis. What therapeutic measures are adopted in these cases?

J. J. S. S.

ANSWER.—The condition is apparently a nutritional disturbance of trophic origin, concerning which little is known. The brittleness and splitting are in part overcome by oiling the hair, which is usually abnormally dry. If the splitting occurs at the tips, it can be prevented from extending by clipping off the split ends. Nothing is gained by the barber's common procedure of singeing.

TOBACCO AND THE CIGARET

Prof. L. Allen Highley, Fulton, Mo.: See THE JOURNAL, Nov. 16, 1912, p. 1798, and Jan. 30, 1909, p. 386.

PROCHOWNICK'S DIET IN PREGNANCY

Dr. F. C. Floeckinger, Taylor, Tex.: You will find this given at some length Oct. 28, 1911, p. 1474.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

RECENT LEGISLATIVE DEVELOPMENTS

ARKANSAS

The senate has passed S. B. 30, creating a State Board of Health.

CALIFORNIA

A bill, drafted by a prominent member of the California Federation of Women's Clubs and introduced in the senate, requires a health certificate as a condition for a marriage license, establishes a bureau of marriage and child welfare, and provides for the appointment of two physicians in each county to carry out the objects of the bill.

ILLINOIS

S. B. 66 provides for the registration of births and deaths. The Illinois *Commission on Uniform Marriage and Divorce* Laws has recommended the passage of bills nullifying marriages contracted in one state to avoid prohibitions in other states. An interval of fifteen days between the application for and the issuance of a marriage license, the publication of all details regarding both [illegible] ies, [illegible] he refusal of [illegible] ons from imbeciles an [illegible] influence [illegible] alsc recommende

INDIANA

The Keegan bill, regulating the sale of habit-forming drugs, has been amended following a conference with the State Board of Health so that physicians, dentists and veterinary surgeons may dispense opiates. A bill has been introduced reducing the number of health officers in the state from 533 to 103, requiring health officers to give their entire time, and fixing salaries on a basis of population, ranging from $1,200 in counties having a population of less than 5,000, to $2,500 in counties having a population of more than 50,000. The bill for the extermination of rats passed the senate by a vote of 43 to 2. The bill prohibiting common drinking-cups passed the senate by a vote of 39 to 1. A chiropractic bill has been introduced in the senate.

IOWA

A bill creating a department of vital statistics under the State Board of Health has been introduced. This bill was drafted by the secretary of the State Board of Health, and follows the general plan of the model bill.

KANSAS

H. B. 617 is a sterilization bill. A bill approved by the State Board of Health provides for a fine of $100 and six months' imprisonment for failure to use preventive methods for ophthalmia neonatorum. The nurses' registration bill has passed the senate and the house.

MASSACHUSETTS

The Conant bill provides that when application is made for marriage license, the clerk receiving the application shall issue a physical examination blank to each applicant. The blank, filled out and signed by a registered physician, is to be sent in each case by registered mail to the other party in the marriage agreement. The parties are permitted to marry regardless of the contents of the report, the only aim of the bill being to give each a knowledge of the exact physical condition of the prospective mate.

MINNESOTA

Bills have been introduced providing a contagious disease hospital for Minneapolis, increasing the term of coroners to six years, prohibiting common drinking-cups and providing for whole-time health officers.

MISSOURI

Bills have been introduced separating the business and medical departments of the state hospitals, creating the office of medical supervisor for the four state insane hospitals, forbidding fee-splitting and amending the medical practice act.

NEBRASKA

The legislative committee of the State Medical Society has indorsed S. F. 100, requiring the reporting of occupational diseases; S. F. 142, prohibiting marriage licenses to those physically unfit; S. F. 155, regulating the marking of manufactured articles; S. F. 159, providing for the sanitation of factories, mills and workshops; S. F. 188, prohibiting misleading advertising; S. F. 310, prohibiting the division of fees by physicians; S. F. 420, increasing the quarantine powers of the State Board of Health; H. R. 120, prohibiting common drinking-cups; H. R. 215, providing for the inspection of public schools and private hospitals; H. R. 425, appropriating $5,000 for a state board of health laboratory, and $7,000 for maintenance; H. R. 541, forbidding the sale of certain drugs and catarrh cures, except on physicians' prescriptions; H. R. 660, providing for medical examination of school children; H. R. 685, appropriating $5,000 for the investigation of criminal abortion; H. R. 697, forbidding the selling of any patent medicine or food article if false statements regarding them are made on the container or in newspaper advertisements; H. R. 825, providing for the sterilization of criminals. The committee has disapproved of two bills restricting the State Board of Control, as well as S. F. 97, authorizing the practice of "suggestive therapeutics"; S. F. 132, a sterilization bill; S. F. 134, a bill regulating marriage; S. F. 209, regulating non-medical healing; S. F. 402, exempting mental and spiritual healers from the medical practice act; H. R. 25, providing for the exemption of non-medical healers; H. R. 94, a sterilization bill; H. R. 141, a bill regulating marriage; H. R. 243, requiring all physicians to write prescriptions in English; and H. R. 631 and 736, legalizing non-medical healing.

NEW JERSEY

H. B. 49 provides for a State Board of Osteopathic Examiners.

NEW YORK

Two bills have been introduced regulating the sale of habit-forming drugs; also a bill authorizing counties to condemn sites for tuberculosis hospitals.

NORTH CAROLINA

Bills have been introduced in the house providing for inspection and regulation of railroad stations, coaches, hotels, boarding-houses and cafés.

NORTH DAKOTA

A sterilization bill has been introduced in the senate.

OKLAHOMA

A bill regulating marriages has been defeated in the house. The senate has passed a bill appropriating $10,000 to stamp out the small-pox epidemic now existing in the southeastern part of the state. The following bills have been introduced in the senate: S. 26, a chiropractic bill; S. 27, regulating cold storage; S. 29, providing for the medical inspection of rural schools; S. 219, defining the practice of medicine. The following bills in the house are in committee: H. B. 315, providing for a state tuberculosis sanatorium; H. B. 316, defining the powers of local boards of health in preventing tuberculosis; H. B. 333, authorizing an annual school of instruction for local health officers. The following bills have been recommended for passage: H. B. 335, a sterilization bill; H. B. 337, providing for the reporting of contagious and infectious diseases; H. B. 338, providing for the inspection of all penal and charitable institutions of the state; H. B. 343, regulating the sale of patent and proprietary remedies and prohibiting misbranding; H. B. 347, providing for the sanitation of all places where foods or drugs are prepared or sold. H. B. 353, regulating railway hotels, has passed the house. H. B. 334, providing for the reporting of births and deaths has been indefinitely postponed. H. B. 282, regulating marriage has been defeated. The following new bills have been introduced: H. B. 567, regulating marriage licenses, and requiring health certificates for men; H. B. 500, fixing the fees of physicians and surgeons; in the senate, S. 335, repealing the state board of health act, and substituting a superintendent of health; S. 341, requiring a special license for physicians performing major surgical operations.

OREGON

The senate has passed S. B. 346, requiring male applicants for a marriage license to present health certificates. Both houses have passed bills forbidding spitting and the pollution of streams.

OHIO

The following bills have been introduced: a sterilization bill, a naturopathic bill, a bill providing for the physical inspection of school children, a bill removing tuberculous patients from county hospitals to state tuberculosis hospitals, a bill requiring the reporting of occupational diseases, a bill creating a state board of examination for trained nurses, and an optometry bill.

PENNSYLVANIA

A bill has been introduced, making it a misdemeanor for any physician or surgeon to practice while under the influence of intoxicating liquor or of any drug; also, a bill establishing a bureau of child hygiene.

RHODE ISLAND

A bill has been introduced in the senate, creating a state hospital for advanced cases of tuberculosis.

SOUTH DAKOTA

H. B. 78 is an optometry bill. H. B. 227 provides one day's rest in seven for employees in certain occupations. H. B. 251

provides for the position of county health officers. H. B. 256 creates a board of public health and medical examiners.

TEXAS

A bill has been introduced in the house, limiting the fees of physicians and surgeons to $5 for obstetric cases, $100 for surgical operations and $2 for visits. Other bills prohibit misrepresentation as to the curative power of drugs, define medical malpractice, and prohibit medical services by any physicians intoxicated or under the influence of any drug.

UTAH

The State Board of Health has asked for legislation protecting the state water-supply, regulating marriage, providing for the prevention of tuberculosis, appointing a state tuberculosis commission and increasing the power of the board.

VERMONT

Governor Fletcher has vetoed the sterilization bill.

SUPERVISORY COUNTY HEALTH OFFICERS

A plan for the creation of a county health officer to have supervision over the health of the rural communities in New York in connection with the local health officers, except in the larger cities, was presented recently to the special health commission appointed by Governor Sulzer by Dr. Charles F. Bolduan, of the Health Department of New York City (*American Practitioner*, January, 1913).

The plan provides for the retention of the present town and village health officers, but subordinates these to a new official, the county health officer, who is to be a trained public health expert. Town and village boards are to be abolished and present officers are to be governed by a set of rules and regulations of state-wide application. The supreme health authority of the state would be vested in the "State Health Session," composed of all the county health officers, together with the State Commissioner of Health. This body would have the power of making public health regulations. Provision is also made for a "Health Council" composed of three county and the city health officers selected by the "State Health Session" and the state health commissioner, and the general medical officer of the city of New York. The duties of the council would be to regulate and coordinate intercounty public health affairs and act in the place of the "Health Session."

The plan also provides for the qualifications and manner of appointment of these officers, etc., and sets forth the duties of present health officers, who would under the plan become medical and sanitary inspectors. The county health officer would be held responsible for health conditions in the county, and would play an influential part in educating the public in health matters, keep posted on the vital statistics of the county, investigate and take measures to check epidemics, etc.

Another feature of the plan is the establishment of facilities for making laboratory examinations in the case of infectious diseases, etc. The financing of the plan is also provided for; the charges would be so distributed that they would largely be borne by the state as a whole, thus enabling sparsely settled counties to have as efficient service as any others.

Medical Cooperative Association.—One of the advantages of the organization of the profession in Belgium is the Coopérative Médicale of Liége which secures reductions on the prices of books and instruments for its members and is now considering whether to make similar arrangements for supplying dressings and other druggists' sundries, etc. The membership is restricted to physicians and medical students. The annual fee is 40 cents (2 francs), and this fee is reduced to 10 cents (50 centimes) for the members of various medical societies which grant the Coopérative Médicale an annual subsidy of $20. Each member of the Coopérative is further obligated to buy a $2 share of stock redeemable in two years. The reduction on books amounts to 14 or 17 per cent. and on instruments from 5 to 20 per cent. The president of the Coopérative for the current year is Dr. A. Leroy, rue Ed. Wacken 21, Liége, Belgium.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

IOWA: Lincoln School Building, Des Moines, March 4-6. Sec., Dr. Guilford H. Sumner, State House.

MAINE: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

MISSOURI: St. Louis, February 24-26. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

WYOMING: State House, Cheyenne, March 5-7. Sec., Dr. A. B Tonkin, Riverton.

The Drake-Iowa Medical School Merger

The following resolutions were adopted by the faculty of the College of Medicine of Drake University, February 10:

WHEREAS, The Medical Faculty of Drake University has been informed by the trustees of the University that all their efforts to secure the necessary funds for the endowment and permanent support of the medical school, in accordance with the highest standards of requirement, have been unsuccessful; and

WHEREAS, The faculty recognizes its responsibility to the members of the teaching staff, many of whom are dependent for their academic careers on the standards maintained by the institution with which they are connected, and to the students who place their confidence in the school for the proper training in the professional work with which they are to serve humanity, and as it seems impossible to secure the material assistance necessary to maintain the medical school in the front rank of institutions of its kind; be it

Resolved, That the trustees of Drake University be recommended to merge the medical school at the close of the present session with the College of Medicine of the State University of Iowa; and be it further

Resolved, that with the merger of the Drake University Medical School, this faculty urges that all the interests of its members, and the medical profession of the state be centralized in the College of Medicine of the State University of Iowa, at Iowa City, and that this faculty wishes to go on record as expressing its fullest confidence in the State University to assume this responsibility and fulfil its mission in every respect.

South Carolina June Report

Dr. A. Earle Boozer, secretary of the South Carolina State Board of Medical Examiners, reports the written examination held at Columbia, June 11-13, 1912. The number of subjects examined in was 8; total number of questions asked, 105; percentage required to pass, 75. The total number of candidates examined was 128, of whom 91 passed including one osteopath and 34 failed including 2 osteopaths. Three candidates did not complete the examination. Two candidates were licensed through reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cent
George Washington University	(1908) 77.9; (1909)	82.2
Howard University, Washington, D. C.	(1910)	83.5
University of Georgia	(1912)	80.7, 83.4
Atlanta School of Medicine	(1912)	77.5
Atlanta College of Phys. and Surg.	(1912)	75, 75.5, 78.7 83.6
University of Louisville	(1912)	86
Tulane University of Louisiana	(1910)	83
Johns Hopkins University	(1901)	90.5
University of Maryland (1910) 76.7; (1911) 83.5;	(1912)	84.4, 85, 86.7, 87.2, 87.5, 89.9.
Tufts College Medical School	(1911)	79.7
College of Phys. and Surg., Boston	(1910) 81.6; (1911)	81.5
University of Michigan, Dept. of Med. and Surg.	(1910)	88.1
Leonard Medical School	(1912)	77, 79.5
Jefferson Medical College	(1912)	87.6, 91
Medical College of the State of South Carolina	(1892) 75; (1910) 75, 75.4; (1911) 76.1, 79.9; (1912)	75, 75.4, 75.5, 76.9, 77.1, 77.6, 77.7, 77.9, 77.9, 78, 78.1, 78.4, [illegible] 79.5, 79.7, 80, 80.5, 80.5, 80.6, 80.6, 80.9, 81.4, 81.5, [illegible] 82.6, 82.7, 8[illegible]7, 82.9, 83, 83.6, 83.9, 84.1, [illegible] 84.7, 84.7, [illegible] 85.4, 85.9, 86.1, 86.2, 86.[illegible]

Vanderbilt University	(1912)	83.1, 88.6
Medical College of Virginia	(1912)	76.5

FAILED

University of Georgia	(1912)	59.9, 69.5
Atlanta College of Physicians and Surgeons	(1912)	71.2
Georgia College of Eclectic Medicine and Surgery	(1912)	46.5, 63
Hospital Medical College, Atlanta	(1911)	42.2
Southern College of Medicine and Surgery, Atlanta	(1912)	62.6
College of Physicians and Surgeons, Baltimore	(1910)	73
Lincoln Memorial University	(1912)	72.4
Leonard Medical School..(1906) 68.2; (1910) 70;	(1912)	43.1
Medical College of the State of South Carolina (1908) 69; (1909) 66.2, 72.5; (1911) 60.5, 68.5, 70; (1912) 64, 68.7, 69.2, 70.1, 70.6, 73.2.		
Meharry Medical College. (1907) 64; (1909) 71.7;	(1911)	60.1
University of West Tennessee	(1910)	67.2
University of Tennessee	(1905)	40.2
Memphis Hospital Medical College	(1911)	54, 66.6
Gate City Medical College	(1910)	66.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Maryland	(1910)	Maryland
Medical College of Virginia	(1890)	Virginia

California December Report

Dr. Charles L. Tisdale, secretary of the California Board of Medical Examiners, reports the written examination held at Los Angeles, Dec. 3-6, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 134, of whom 89 passed including 20 osteopaths and 45 failed including 20 osteopaths. The following colleges were represented:

PASSED

College	Year Grad	Per Cent.
Univ. of California..(1911) 85.4, 86.1;	(1912)	81.1, 82.5, 82.9, 90
College of Physicians and Surgeons, Los Angeles (1909) 85.1; (1911) 81.3; (1912) 77.6, 78.2, 80.1.		
College of Physicians and Surgeons, San Francisco	(1912)	75
Oakland College of Medicine and Surgery	(1912)	77.5, 78.3, 79, 84,4, 85.6.
University of Southern California	(1905)	78.4
Cooper Medical College	(1912)	75.8, 81
Denver and Gross College of Medicine	(1906)	81.3
University of Colorado	(1911)	80
George Washington University	(1912)	86.2
Northwestern Univ. Medical School..(1902) 85.8;	(1911)	81.5
Rush Medical College (1891) 89; (1897) 81.5; (1902) 86.2; (1905) 80.6; (1912) 85.8.		
Northwestern University Woman's Medical School	(1887)	87.8
College of Physicians and Surgeons, Chicago (1891) 87.4; (1911) 85.8; (1912) 84.4, 84.8, 85.8, 88.		
Chicago Medical College	(1880)	90
Central College of Phys. and Surg., Indianapolis	(1886)	85.2
Drake University	(1897)	82.2
Baltimore Medical College	(1900)	91.3
Harvard Medical School..(1911) 89.3;	(1912)	80.1, 83.5
Detroit College of Medicine	(1894)	86
University of Minnesota, College of Medicine and Surgery (1902) 82.4; (1910) 81.9.		
Creighton Medical College	(1912)	79.9
Albany Medical College	(1908)	84.9
New York Homeo. Medical College and Hospital	(1904)	77.1
Cornell University Medical College	(1907)	86.4
New York University Medical College	(1893)	80.4
Ohio Medical University	(1906)	80.2
Miami Medical College	(1873)	81.7
Eclectic Medical College, Cincinnati	(1905)	77.8
Western Reserve University	(1892)	94.4
Univ. of Pennsylvania..(1897) 87.6; (1900) 96.1;	(1902)	88.3
Medico-Chirurgical College, Philadelphia	(1895)	81.8
Vanderbilt University..(1891) 91.5; (1908) 86.7;	(1912)	85.4
University of the South	(1901)	77.8
University of Virginia	(1911)	84
Wisconsin College of Physicians and Surgeons	(1903)	75.8
University of Toronto, Ontario	(1911)	80.4
University of Genoa, Italy	(1905)	75
University of Florence, Italy	(1904)	76.5

FAILED

College of Physicians and Surgeons, Los Angeles	(1912)	65.7
University of Colorado	(1902)	68.9
Bennett Medical College	(1900)	72.4
Hahnemann Medical College, Chicago. (1890) 73.2;	(1905)	64.5
Coll. of Phys. and Surg., Chicago. (1896) 62.2, 74.1;	(1912)	71.6
Rush Medical College...(1883) 72.1; (1890)* 76;	(1899)*	75.7
University of Louisville	(1905)	70.5
Louisville National Medical College	(1889)	52
Baltimore University	(1899)	66.2
Barnes Medical College	(1911)	67.2
Central Medical College, St. Joseph	(1898)	72.5
Missouri Medical College	(1881)	56.4
Lincoln Medical College	(1906)	69.2
Omaha Medical College	(1895)	64.9
New York University Medical College	(1886)	71.4
Cleveland University of Medicine and Surgery	(1897)	74.2
Eclectic Medical Institute, Cincinnati	(1890)	71.4
Willamette University	(1904)	70.5
Chattanooga Medical College	(1908)	73.1
Tennessee Medical College	(1908)	56.6

* Fell below 60 per cent. in one or more branches.

Book Notices

DUNN'S PURE FOOD AND DRUG LEGAL MANUAL. Federal, State and Territorial General and Special Food, Drug, Paint, Oil and Turpentine Laws, Rules and Regulations, Food Standards, Food Inspection Decisions and Leading Decisions of the Courts. Uni- formly Classified and Arranged Cyclopedia of Information. Edited by Charles Wesley Dunn, A.M. Volume 1. Cloth. Price, 2 volumes complete, $12. Pp. 2347. New York: Dunn's Pure Food and Drug Legal Manual Corporation, 32 Liberty St., 1912-1913.

The size of this book illustrates concretely how extensive has been the agitation during the past decade, for purity in food and drugs. But its more than two thousand pages represent only Parts 1 and 2 of Dunn's plan; a second volume is promised, to contain special food and drug laws and an index. The manual is valuable for its actual material. National laws aiming to regulate interstate commerce in the articles mentioned are here given; also those of individual states for business within the state. While the state laws differ widely, yet their aim purports, within state limits, to be similar to that of the federal laws, the protection of individual health. A study of the rendered judgments, here quoted or referred to, would afford valuable information as to how far these aims are being actually realized, and how far their rulings are "inoperative through lack of appropriation" or other causes. This suggests the thought that the book might have been made still more valuable had the "laws repealed" been named—or, better, summarized.

The compiler has recognized the importance of clear arrangement to such a work. His table of topics is a detailed analysis of the contents of both this volume and that which is to come. A layman might perhaps be puzzled at first by such apparent gaps as those between Nos. 52 and 57, or 139—144; his work of examination would have been facilitated by the addition of one line in the text itself indicating the regulations omitted at this point to avoid duplication and referred to only in the table. Abundant footnotes will make verification of statements possible as well as further research. The manual is a most useful book of reference.

CEREBELLAR FUNCTIONS. By Dr. André-Thomas, Ancien Interne des Hôpitaux de Paris. Nervous and Mental Disease Monograph No. 12. Translated by W. Conyers Herring, M.D. Paper. Price, $3. Pp. 222, with 89 illustrations. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912.

Sufficient praise cannot be given the editors of the Nervous and Mental Disease Monograph Series for having made the celebrated monograph of Dr. André-Thomas accessible to English readers. The translation is fair; in fact, it is better than some of the others of this series. The monograph itself furnishes an up-to-date account of a most intricate subject in nervous physiology, that of the cerebellar functions, so much of which is still to be explored. The author is one of the most ardent original workers in the field of cerebellar physiology. In the complete bibliography on the cerebellum his name occurs no less than twenty-three times. An adequate review of this book would require many pages of reading-matter. It will be sufficient to state that neurologist and otologist alike must feel a sense of gratitude to the author for having produced this splendid summary of our knowledge of the cerebellar functions.

OUTLINES OF PSYCHIATRY. By William A. White, M.D., author of "Mental Mechanisms," Superintendent Government Hospital for the Insane, Washington, D. C. Nervous and Mental Disease Monograph Series No. 1. Fourth Edition. Paper. Price, $3. Pp. 318. New York: Journal of Nervous and Mental Disease Publishing Company, 1913.

This edition has several features which especially commend it to new readers. In the running text quotations from case records have been interspersed to aid one in forming a correct idea of a given psychosis. Besides numerous changes of small import calculated to bring the book into harmony with contemporaneous thought the author has added the useful chapter on the Binet-Simon scale for measuring intelligence. We can only reiterate the statement made in a review of a former edition that this book is one of the best small texts on psychiatry in the English language.

Studies in the Psychology of Intemperance. By G. E. Partridge, Ph.D. Cloth. Price, $1 net. Pp. 275. New York: Sturgis & Walton Co., 1912.

The author appeals to those interested in the problem of intemperance. To him the principal reason for the existence of intemperance, which is as old as mankind, is to be found in psychologic and social conditions, rather than in the physical constitution of those addicted to drink. In this opinion he is at variance with many physicians who believe in a hereditary tendency to drug and alcohol addiction. The author traces intoxication to the social life and the religious ceremonial of early nations. He even goes to the extent of saying that "alcohol and its kindred have been of great importance in fostering those social characters on which our present civilization rests. It is difficult to conceive, in fact, what the social life of uncivilized man might have been without the use of alcoholic drinks." The saloon he calls the workingman's club. Under the heading of "Cure" he denounces so-called prohibition and attempts to show its ineffectiveness. Instead he proposes a betterment of social conditions and a complete change of the individual's environment. The book is well written and gives food for reflection. On the whole it reminds one very strongly of Prof. Hugo Münsterberg's article on the alcohol question published in one of the monthly magazines, which produced an endless series of condemnatory criticisms.

The Psychology of Insanity. By Bernard Hart, M.D., Lecturer in Psychiatry, University College Hospital Medical School; Medical Superintendent, Northumberland House Asylum. Cloth. Price, 40 cents net. Pp. 176. New York: G. P. Putnam's Sons, 1912.

Whoever wishes to read an elementary treatise on the new psychology as applied to the neuroses and the psychoses by the Freudian school will find this primer extremely interesting. In our opinion the careful perusal of this small volume by the general practitioner and the non-reading specialist will have a tendency to make the Freudian controversies more dignified. Hitherto the battles between pro- and anti-Freudians have been uninteresting to the spectator owing to ignorance of the terms of the controversy. Henceforth this may be changed; for a few hours' reading of a small pocket-volume may put any one in possession of all the essentials of the new psychology as elucidated by Freud and his school. Those who have been impelled to condemn the new movement because its terminology was unintelligible will henceforth be compelled to seek for weightier arguments. The author of this book deserves credit for having converted a difficult subject into one easily comprehensible.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Seventh Edition. Cloth. Price, $6.50 net. Pp. 1013, with 895 illustrations. Philadelphia: W. B. Saunders Company, 1912.

In this edition the author has adhered to his former plan of including in the work diseases, operations and procedures which by most authors have been treated in works separate from obstetrics. There seems to be good reason for this plan, as no one should know better than the obstetrician the diseases which accompany or follow the reproductive function in women. The book has been rearranged to follow a more logical succession of subjects, and has been extensively revised. The section on diseases of the breast has been largely added to. There is a great profusion of illustrations, many of them in color. This book, combining the two usually separate subjects, obstetrics and gynecology, is a convenient and authentic one for the student and general practitioner.

Selected Papers on Hysteria and Other Psychoneuroses. By Prof. Sigmund Freud. Authorized Translation by A. A. Brill, M.D., Ph.B., Chief of Nervous Department, Bronx Hospital. Nervous and Mental Disease Monograph Series No. 4. Second Edition. Paper. Price, $2.50. Pp. 215. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912.

The translator has incorporated in this, the second edition of Freud's selected papers, two new and important chapters. The one, a translation of the essay on "Wild Psychanalysis," is timely and calculated to prevent unjust criticism of the entire school because of the ignorance of certain so-called disciples of Freud. Parenthetically we may remark that Freud's psychanalysis may at this time be compared with the x-ray treatment before we knew of its dangers. Much damage may be done by those unskilled in its use and those others who lack that indescribable something which we call tact. In the essay under consideration Freud calls a halt to what he names "wild" psychanalysis, as followed by those who are unqualified to practice it because they either are not thoroughly familiar with its principles or else lack the necessary qualifications. The other new chapter in this edition deals with "The Future Chances of Psychanalytic Therapy," pronounced a masterpiece of philosophic writing by Freud's followers. Judging from the fact that a second edition of this monograph has become necessary, it would appear that Freud is gaining ground in this country.

Brain and Spinal Cord. A Manual for the Study of the Morphology and Fiber-Tracts of the Central Nervous System. By Dr. Med. Emil Villiger, Privatdozent in Neurology and Neuropathology in the University of Basel. Translated by George A. Piersol, M.D., Sc.D., Professor of Anatomy in the University of Pennsylvania. From the Third German Edition. Cloth. Price, $4. Pp. 289, with 232 illustrations. Philadelphia: J. B. Lippincott Company, 1912.

This book is extremely popular in Germany first, because of its conciseness, a virtue not often encountered in German texts, and second, because it is sufficiently exhaustive for teaching purposes. Part I gives a detailed account of the morphology of the nervous system, Part II furnishes a splendid description of the fiber tracts, while Part III illustrates the architecture of the brain-stem by a series of consecutive sections. This series is so well executed that it may be said actually to represent the natural preparations, and should be closely studied by those not having access to satisfactory specimens. The translation is so perfect that the reader is never reminded by a clumsy phrase or peculiar paragraphing that he is reading a translated work. The translator has even seen fit to improve the book by the addition of a selected bibliography for the purpose of enabling those who wish to pursue the subject further to find the original papers or the more comprehensive works dealing with the anatomy of the central nervous system. This volume may be worthily placed by the side of those of Obersteiner and Edinger, and we predict that it will soon become the accepted text-book in the leading medical schools.

Therapeutische Technik für die Aerztliche Praxis. Herausgegeben von Prof. Dr. Julius Schwalbe, Geh.San.-Rat. Third Edition. Paper. Price, 24 marks. Pp. 1044, with 586 illustrations. Leipsic: Georg Thieme, 1912.

The third edition of this excellent handbook exhibits several improvements on the previous ones. Perhaps the most important is a new chapter on the technic of immunotherapy by Prof. A. C. Wassermann and his assistant, M. Wassermann. The technic and indications of prophylactic and curative serum and vaccinations are briefly described. A number of other new sections are added and the older chapters have been carefully revised to bring them up to date. The whole work is now published in one volume of somewhat more than a thousand pages, well illustrated. The work must appeal strongly to the practicing physician, for it deals almost entirely with technic in the treatment of disease without which the most extensive theoretical knowledge is of little avail.

Diseases of the Stomach, Intestines and Pancreas. By Robert Coleman Kemp, M.D., Professor of Gastro-Intestinal Diseases in the New York School of Clinical Medicine. Second Edition. Cloth. Price, $6.50 net. Pp. 1021, with 388 illustrations. Philadelphia: W. B. Saunders Company, 1912.

This work, which has reached its second edition, covers a wide field. The reasons for limiting its scope must have been lack of space rather than logical arrangement. The pancreas is included, but not the liver. Logical grounds for including typhoid fever and not pellagra or for including Brill's disease, now known to be a form of typhus, are not apparent. Drug therapy is given in the needed detail. A somewhat undiscriminating mention is made of [illegible] such as Sanatogen, Listerine, Bacillac, Glyc[illegible] Hepp[illegible]tine, etc. Carelessness is indicat[illegible] whic[illegible] are a various mixture of Latin, Obstetrics. A Text-Book for the Use of Practitioners and Students. By J. Whitridge Williams, Professor of Obstetrics, Johns Hopkins University. Third Edition. Cloth. Price, $6 net. Pp. 977, with 684 illustrations. New York: D. Appleton & Co., 1912.

The author is an obstetrician who has pronounced opinions on the teaching of obstetrics, much of which, in this country at least, he believes to be incomplete and defective. In this he does not except his own school. With definite ideas of what should constitute good obstetric teaching he has prepared this book; it bears the impress of thoroughness in every line, and is at the same time a practical exposition of obstetric practice. Since the last edition was reviewed, the book has been revised materially in many respects, and expresses what the author believes to be sound conclusions from later research on many moot points, such, for instance, as eclampsia. The text offers an exceptionally clear exposition, taken together with the many excellent illustrations, of the management of normal as well as of complicated labor, and of obstetric accidents. The many other procedures connected with the puerperal woman and the new-born infant are equally satisfactory. The matter of artificial feeding has been left almost entirely for the works on children, as only a page is devoted to this subject.

The Healthy Baby. The Care and Feeding of Infants in Sickness and in Health. By Roger H. Dennett, M.D., Instructor in Diseases of Children in the New York Post-Graduate Medical School. Cloth. Price, $1 net. Pp. 235. New York: The Macmillan Company, 1912.

This book is an unusually practical one for a new mother, in that it deems few things too insignificant to explain. Dennett has put himself in the place of the worried mother, anxious to have her baby cared for to the best of her ability, and he answers clearly the thousand and one questions that arise in her mind. Dennett makes careful distinction throughout between symptoms that are immaterial, those that indicate simple treatment by the mother and those that call for a doctor's attention. The tables for records, found in the rear of the book, will prove serviceable.

The Care of the Body. By R. S. Woodworth, Professor in Columbia University. Cloth. Price, $1.50 net. Pp. 359. New York: The Macmillan Company, 1912.

This is a popular book on physiology and hygiene, intended primarily for young men. It gives the reader definite instructions as to how he can keep himself in good condition, and at the same time gives him a reason for his actions, in nontechnical but scientifically accurate terms. The book is well and interestingly written, and is attractive in its printing and binding. Physicians needing a book on this subject for their patients will find Woodworth's book a satisfactory one to recommend.

The Home Nurse's Handbook of Practical Nursing. A Manual for Use in Home Nursing Classes in Young Women's Christian Associations, in Schools for Girls and Young Women, and a Working Text-Book for Mothers, "Practical" Nurses, Trained Attendants and All Who Have Responsibility for the Home Care of the Sick. By Charlotte A. Aikens. Cloth. Price, $1.50 net. Pp. 276, with illustrations. Philadelphia: W. B. Saunders Company, 1912.

Physicians will be glad to know of this book. It is suitable for placing in the hands of lay persons who desire to inform and guide themselves concerning the care of the sick at home. It is practical and helpful, and the advice is well guarded to protect the sick from errors on the part of amateur attendants.

The Prevention of Dental Caries. By J. Sim Wallace, D.Sc., M.D., L.D.S., Dental Surgeon and Lecturer on Dental Surgery and Pathology, London Hospital. Second Edition. Cloth. Pp. 70, with illustrations. London: The Dental Record, Alston House, Newman Street, W., 1912.

This is a treatise worthy of the attention of the general practitioner, who has opportunities for giving advice as to tooth conservation to his families. One interesting recommendation is that the mouth be rinsed after each meal; another is that no child should end a meal with mush, jam, cake, candy, etc., which are prone to lodge about the teeth, but rather should end with fresh fruit. particularly an apple, which the author calls an excellent cleanser of the teeth.

The Carrier Problem in Infectious Disesaes. By J. C. G. Ledingham, M.B., D.Sc., Chief Bacteriologist, Lister Institute of Preventive Medicine, London, and J. A. Arkwright, M.D., Assistant Bacteriologist, Lister Institute of Preventive Medicine, London. International Medical Monographs. Cloth. Price, $3.50 net. Pp. 319. New York: Longmans, Green & Co., 1912.

This book is almost a pioneer in the field of text-books on carriers of disease, a subject that is of vast importance in the modern understanding of infectious diseases. The authors have abstracted and summarized the writings of the various workers and writers on the carrier problem, covering typhoid and paratyphoid fevers, diphtheria, epidemic cerebrospinal meningitis, dysentery and cholera. The history, detection and cultural and differential methods are first given in the instance of each specific bacillus or coccus, followed by an abstract of statistical and other information on the rôle of the organism in producing the disease through carriers. The literature seems to be well covered, the authors taking up only the six diseases named because the information concerning them is better worked out. The subject in its definite details is a comparatively new one, and the enterprise of the authors and publishers in thus early presenting the subject is to be commended.

Manual of Human Osteology. By A. Francis Dixon, M.B., Sc.D., University Professor of Anatomy and Surgery, Trinity College, Dublin. Cloth. Price, $3 net. Pp. 316, with 178 illustrations. New York: William Wood & Co., 1912.

A concise and helpful handbook, well illustrated.

Medicolegal

Constitutionality of Medicolegal Practice Act—Who Unlawfully Practice Medicine—Need Not Claim to be Physicians—Prayer Treatment by Hindu—Sufficiency of Information—Admissibility of Evidence

(Singh vs. State (Tex.), 146 S. W. R. 891)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Singh, a Hindu from East India, of unlawfully practicing medicine under chapter 123 of the acts of the thirtieth legislature, overruling a motion for rehearing. The court says that the state introduced one Ball as a witness, who testified that he took his wife to Dallas to be treated for a tumor and cancer of the stomach, and was induced to go to the defendant. He described the treatment given by the defendant, which included present and absent treatments, stating that the defendant would rub the palms of his hands together; that he would lay his hands on the tumor, then draw his hands across the tumor; that he repeated this a number of times, and would throw his hands as if casting it behind him, telling Mrs. Ball that the tumor would go away. He was about thirty minutes in giving the treatment. As to the absent treatment, he told her at a given hour "to look at a picture he had, and to lie straight out, and put her mind on that and be quiet, and not let any noise or person bother her at all."

The defendant contended and introduced witnesses to prove that the only treatment he gave was by prayer; that he did not claim to effect the cures himself, saying his power was from God, and that God effected the cure; and he requested that the jury be instructed that if from the evidence they believed that the defendant used prayer only in his treatment, and held himself out as treating disease through the will of God only, that that was not the practice of medicine as defined by the statute, and they should find the defendant not guilty. There was no error in refusing that instruction and charging the jury, instead, that "any person shall be regarded as practicing medicine within the meaning of this charge who shall treat or offer to treat any disease or disorder, mental or physical, by any system or method, or effect cures thereof, and charge therefor directly or indirectly money or other compensation." Section 13 of the medical practice act defines the meaning of the words "practice of medicine," and it means under that act to treat or offer to treat disease by any system or method. In those states where the term is not defined by statute, it is construed to relate only to the practice of medicine as popularly understood, but where the term "practice of medicine" has been given a definition by statute, and so worded as to cover all treatment of disease by whatever nature or means, it has been held that the legislature had that power and authority.

The most important of police powers is that of caring for and preserving the health of the citizens of a state, and this power is inherent in sovereignty, and the legislature may pass all such laws as are reasonably necessary to accomplish that purpose. The act of the legislature in question is a reasonable exercise of the police power, for in the act it is provided that nothing in the law shall be construed so as to discriminate against any particular school or system of medical practice.

However, it does provide that no one shall treat, or offer to treat, any disease, mental or physical, or any physical deformity or injury by any system or method, and charge therefor, unless such person has obtained a license from the board of examiners appointed by the governor, and said board is required to examine applicants as to their knowledge of anatomy, physiology, chemistry, histology, pathology, bacteriology, physical diagnosis, surgery, obstetrics, gynecology and hygiene. If a person is of good moral character and passes an examination in the subjects named, he may practice whatever method he deems best for effecting the cure of disease. The subject of the public health being a matter subject to the police power of the state, the legislature has the power to pass laws requiring a certain amount of knowledge on given subjects, which it in its wisdom deems essential to the proper diagnosis and treatment of disease. In the law there is no discrimination as to persons or methods, but all are required to undergo the same examination, and then each and every person licensed may treat disease in the way by him deemed best. The legislature has not sought to say how disease shall be treated by any one, but has simply required that all persons who shall treat or offer to treat disease shall have a knowledge of given subjects; the legislature deeming this essential to the preservation of the health of the citizens of the state. It is not for the courts to say that this is wise or unwise; that the requirements are too onerous or are insufficient to accomplish the purposes intended. The law is not violative of any provision of the constitution, and is but an exercise of the police power on a subject that all the law-writers of note declare is within that power.

The legislature having defined the meaning of the words "practice of medicine" to embrace all "who shall publicly profess to be a physician or surgeon and shall treat or offer to treat disease, etc., also all persons who shall treat or offer to treat disease, etc., for compensation," the court holds that in so defining the words the legislature has rendered liable to the provisions of the act all persons who shall treat disease and charge therefor, regardless of the mode or method used in so doing. Any one who holds himself out as a physician or surgeon is liable under the law, whether he receives compensation or not, while one who does not so hold himself out must be shown to have received compensation either directly or indirectly. In this case the defendant may not have advertised himself as a physician, but he did advertise that he was capable of treating disease, and, when it was shown that he received compensation for his services, he was liable to the penalties provided in the act. And one who made no charge directly, but told all who applied for treatment that he "would receive free-will offerings," would be receiving compensation within the purview of the law, for "indirectly" was used to cover just such evasions.

Other points decided in the case are that the complaint was not insufficient because it did not contain the name of the affiant in the body thereof, when the name of the affiant was at the bottom of the affidavit, and was the party making the same, with the jurat of the officer taking it. Nor was the information insufficient because it did not set forth the school of medicine to which the defendant was alleged to belong, did not set forth the method or system by which it was alleged the defendant effected cures and treated for pay, and did not set forth the particular branch or department of medicine that the defendant practiced or was alleged to have practiced. As a general rule, it is sufficient to charge an offense in substantially the language of the statute creating it.

A check for $10 given by Mr. Ball to the defendant, payable to the latter or order, and containing the words: "1 week's medical treatment for wife," which check was "Paid" and was indorsed on the back with the defendant's name, was admissible in evidence as a circumstance showing that the defendant accepted checks in payment for treating the witness' wife. It was also proper for the witness to state that the defendant had told him he did not give receipts, that it was not necessary as he could not collect by law, for it would show that the defendant was aware of the provisions of the medical practice act and that the business he was pursuing was prohibited by law. Neither was it error to permit the witness to state that the defendant had prescribed for him for catarrh. The defendant was being prosecuted for unlawfully engaging in the practice of medicine by offering to treat diseases and effect cures thereof for money, and all this testimony was admissible as tending to show that he was practicing medicine.

Nor was there error in permitting another witness to state that he had called on the defendant at the "Temple" and asked him if he could cure his wife of neuralgia, and that the defendant stated that he could, and what his charges would be. The main issue in this case was whether or not the defendant was treating and offering to treat diseases for pay, and any statement made by him bearing on that point would be admissible in evidence.

The law does not denounce the treatment of each individual as a separate and distinct offense, but the offense defined is for a person to treat or offer to treat any disease or disorder without having been licensed so to do by the state board, and, while under the information it would be necessary to prove that he did treat the person named and receive pay therefor, yet the state would not be limited to this proof alone under the information in this case, but could introduce other evidence which showed, and tended to show, that the defendant was treating and offering to treat various diseases for compensation. Especially would this be true under the evidence in this case, as the defendant by his evidence was contending that he did not charge for such treatment directly or indirectly, but only accepted free-will offerings.

A Retiring Partner May Sell His Influence and Good Will

(Mills vs. Ressler (Kan.), 125 Pac. R. 58)

The Supreme Court of Kansas holds that a physician, who is a member of a firm practicing a specialty and making use of certain remedies and formulas in such practice, may, on retiring, sell his influence and good will to the firm or its successors, and, having done so, he and any one in collusion with him may be enjoined from doing any act which would prevent the purchasers thereof from enjoying the benefits of such influence and good will to the same extent as they were enjoyed before the sale. While contracts in general restraint of trade or business are void, contracts less restrictive are invalid only when inimical to the public welfare, and they are to be judged, not by the arbitrary measure or extent in time or extent space, but by their reasonableness under all the circumstances, having regard both for the liberty of a person to make beneficial use of his own and the public consequences of such use. And a contract reasonably limiting the right of a physician to practice a specialty is valid.

X-Ray Plates Admissible in Evidence

(Chicago, Burlington & Quincy Railroad Co. vs. Upton (U. S.), 194 Fed. R. 371)

The United States Circuit Court of Appeals, Eighth Circuit, holds that *x*-ray plates taken, showing the extent and character of the plaintiff's (Upton's) injuries, were properly admitted in evidence, after their correctness had been verified by competent evidence. The court does not agree with the contention that prints taken from the plates are alone admissible in evidence, and the plates themselves inadmissible.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

February, CXLV, No. 2, pp. 157-312

1 Disputed Problems Associated with Surgery of Large Intestine. W. J. Mayo, Rochester, Minn.
2 *Relation of Anaphylaxis to Immunity and Disease. V. C. Vaughan, Ann Arbor, Mich.
3 Chronic Purpura and Its Treatment with Animal Serum. H. L. Elsner and F. M. Meader, Syracuse, N. Y.
4 Present Value of Wassermann Reaction. L. S. Milne, Kansas City.
5 *Diaphragmatic Hernia; Report of Case. K. M. Vogel, New York.
6 Factor of Fatigue, with Reference to Industrial Conditions. W. A. White, Washington, D. C.
7 *Topography of Cardiac Valves as Revealed by Roentgen-Rays. G. W. Norris and G. Fetterolf, Philadelphia.
8 Rôle of Stethoscope in Physical Diagnosis. H. Sewall, Denver.
9 *Clinical and Experimental Investigation of Therapeutic Value of Camphor. J. D. Head and R. C. Brooks, Pittsburgh.
10 Some Interesting Negative Results with Phenolsulphonephthalein Test. O. H. P. Pepper and J. H. Austin, Philadelphia.
11 Primary Adenomata of Liver Simulating Hanot's Hypertrophic Liver Cirrhosis. H. C. Gordinier and H. P. Sawyer, Albany, N. Y.

2. **Relation of Anaphylaxis to Immunity.**—All the problems of protein sensitization have not been solved. It seems to be a physiologic law, Vaughan says, that the specific ferments elaborated by living cells are determined by the proteins brought into contact with them, but as yet we know little concerning these bodies which we call ferments. That they are labile chemical bodies resulting from intramolecular rearrangement in the protein molecules of the cell seems a plausible theory, but at present it is only a theory. But little is known of the action of these so-called ferments on their homologous proteins. Knowledge of the chemistry of protein sensitizers is exceedingly limited, and it is highly desirable that work in this direction should be prosecuted with vigor, because sensitizers free from the poisonous group are needed. Furthermore, there is the question, why small doses of protein induce fever while large doses have no effect. At present there is no satisfactory answer to this question. If it could be demonstrated conclusively that the toxins are ferments, the subject of the etiology of disease would be greatly simplified. Vaughan formulates what he believes to be two biologic laws: 1. When the body cells find themselves in contact with, or permeated by, foreign proteins they tend to elaborate specific ferments which digest and destroy the foreign proteins. 2. When body cells are attacked by destructive ferments they tend to elaborate antiferments the function of which is to neutralize the ferments and thus protect the cells.

5. **Diaphragmatic Hernia.**—Vogel believes that diaphragmatic hernia is much commoner than generally supposed, and may exist indefinitely without giving rise to symptoms. Dextrocardia and physical signs suggesting those of pneumothorax should always cause the possibility of this condition to be thought of and lead to careful radiographic study of the thorax. His patient came to the hospital suffering from abdominal pain and other symptoms referable to a stenosis of the large intestine, with attending peritonitis, which ended fatally. The history included no symptoms that could be connected with the astonishing dislocation of the abdominal viscera which was revealed at the autopsy. On opening the thorax the colon was seen occupying the left chest through a left-sided diaphragmatic defect. The spleen weighed 180 grams and was about in the position of the heart. The left lung was collapsed and measured 14 cm. in length, 7 cm. in width, and 2 cm. in thickness. The right lung presented numerous firm adhesions to the chest wall, but was otherwise normal. The left border of the heart was 2.5 cm. to the right of the median line, the right border, 11.5 cm. to the right of the median line, the upper border at the third rib, the apex at the sixth rib, 1.5 cm. inside the mammary line. The left chest was filled with omentum, caput coli, transverse and descending colon; a few inches of the ileum were lying above the diaphragm. The descending colon was straight and ran directly to the brim of the pelvis. The gut was much distended. The omentum was adherent to the transverse colon, making a sort of bag, but was not in any way adherent to the chest wall. The stomach lay above the diaphragm with the duodenum passing through the opening. The hernia could be easily reduced. The hernial opening occupied the posterior and lateral portions of the diaphragm, was about 15 cm. in diameter, and had rounded and somewhat thickened edges. A loop of small intestine was adherent to the sigmoid at the brim of the pelvis. The sigmoid was constricted for a distance of 5 cm., so that even the little finger would not pass through the obstruction. The muscle was thickened above the constriction. The mucosa was practically normal except for four pockets with mouths 0.5 cm. in diameter. These pockets varied in depths from a few millimeters to several centimeters. There was a thick collar of firm inflammatory tissue some 12 cm. long about the sigmoid just above the pelvic brim, binding the gut down to the posterior abdominal wall. There was a band of fat and inflammatory tissue over the surface of the sigmoid, aiding in the constriction. The other organs presented no abnormalities.

7. **Topography of Cardiac Valves.**—In order to determine the exact position on the chest wall of the heart valves, cadavers were injected with 10 per cent. formaldehyd solution and then put into cold storage. When thorough freezing had been secured the head and neck, the upper extremities, and the lower part of the trunk were cut off. The thorax was then cut into frontal sections about one inch thick, the cuts being made parallel with the anterior surface of the chest. Each section was then cleaned up by removing all blood-clots and saw detritus from the heart cavities and large blood-vessels. In this manner distortion was avoided, since all parts were hardened in the position which they occupied at death. Each valve leaflet was carefully dried and then painted with the thickest possible lead paint. This was readily done, for the sections were so thin that all the valves were accessible, and in most instances it was possible to paint both surfaces of the entire eleven leaflets. Finally, after the valves were painted, the sections were superimposed, with the anterior one below, and a skiagram taken. In order to show with greater clearness the relations of the valves to the sternum and ribs, that section of the thorax which comprised the posterior portion and included the vertebral column, the posterior section of the ribs and the thick spinal muscles, was not used. By discarding this portion nothing was lost and much was gained in clarity, since the vertebrae and the posterior part of the ribs were eliminated from the pictures.

In the course of these investigations fifteen bodies were sectioned. It was soon evident, however, that a much larger number would have to be studied before any definite conclusions regarding normal relations could be reached, since many of the cadavers represented pathologic alterations in the topography of the thoracic viscera. Often the heart was displaced as the result of extensive pulmonary tuberculosis, or of hypertrophy of the heart. Other lesions, such as pericardial effusions, atelectatic lungs, etc., furnished additional sources of error. This communication is a preliminary report, and is made in demonstration of an entirely feasible and hitherto unemployed method of studying post mortem the topography of the heart valves in health and disease.

9. **Therapeutic Value of Camphor.**—In planning their bedside study of camphor, the authors limited the investigation to the effects of the drug, as administered hypodermically, on the circulatory apparatus of human subjects exhibiting varying conditions of the cardiovascular apparatus. Camphor was dissolved in oil and administered by single or multiple subcutaneous or intramuscular injection into patients who could be somewhat arbitrarily divided into the following groups: A.—Patients whose circulatory apparatus was apparently normal. B.—Those whose auricles were in clinical fibrillation (confirmed by polygraphic tracings). C.—One patient (two observations) with valvular disease but normal rhythm. D.—

Patients with unclassified cardiovascular diseases, chiefly, however, affecting the myocardium and vascular coats. In addition to the above, two control experiments were conducted. Sterile oil was injected into a patient of Group A and into one of Group B. All the subjects but one were adults in a state of nutrition from fair to good. Records of pulse and of systolic and diastolic blood-pressure were made at frequent intervals covering a period of forty to 270 minutes after the injection of the drug; the usual duration of the observation was about 120 minutes. The patients were frequently questioned as to the presence of subjective symptoms which might be attributable to the camphor, but in not a single instance was there obtained any evidence of drug action, with the exception of a complaint of burning at the point of administration. The latter sensation was frequently accompanied by local redness and swelling, which lasted for several hours. Camphor injected subcutaneously in oil in doses as large as 50 grains failed to produce any definite effects. The variations in pulse and in blood-pressure occasionally following the use of the drug were so inconstant as to make it probable that they had no relation to the medication employed. The authors conclude that *while camphor may be an active agent in certain disorders in* which there is an abnormally small glycuronic acid content and while experiments indicate that the drug exercises a favorable effect on the heart muscle which is poisoned by chloral, muscarin, or strychnin, nevertheless camphor should neither be relied on as a cardiac stimulant nor feared as a toxic agent in the doses employed by them and under the conditions in which its action was studied.

Annals of Surgery, Philadelphia

February, LVII, No. 2, pp. 145-304

12 *Approach to Hypophysis Through Anterior Cranial Fossa C. H. Frazier, Philadelphia.
13 *Postoperative Thrombophlebitis. A. C. Burnham, New York.
14 Multiple Myelomata, with Numerous Spontaneous Fractures and Albumosuria. E. W. H. Groves, Bristol, England.
15 Tuberculosis of Breast. C. A. Powers, Denver.
16 *Angulation of Junction of Hepatic and Common Ducts After Cholecystostomy, Simulating Common Duct Obstruction. D. Stetten, New York.
17 Strangulated Inguinal Hernia in Early Infancy. A. N. Collins, Duluth, Minn.
18 Hernia Adiposa. L. Friedman, New York.
19 Formation of Artificial Vagina by Intestinal Transplantation. F. T. Stewart, Philadelphia.
20 Reduction of Old Unreduced Dislocations of Shoulder. T. T. Thomas, Philadelphia.
21 *Chronic (Non-Suppurative) Hemorrhagic Osteomyelitis. G. Barrie, New York.

12. Approach to Hypophysis.—Frazier's operation consists essentially in the reflection of an osteoplastic flap from the right frontal region, in the removal *en bloc* of the supra-orbital ridge as suggested by McArthur, with a portion of the roof of the orbit, later to be replaced, and in rongeuring away what remains of the roof of the orbit down to the optic foramen. With the elevation of the frontal lobe and the depression of the orbital contents, a free and adequate exposure is secured, and there remains only to make a short incision in the dura to lay bare the cavity of the sella turcica.

13. Postoperative Thrombophlebitis.—Burnham analyzed ninety-eight cases of post-operative thrombophlebitis (excluding those cases due to evident direct extension from contiguous inflammatory areas) in a total of 11,655 operations. Of these ninety-eight cases, ninety-four occurred in one or both legs and are the only ones in which a detailed study is made. He believes that post-operative thrombophlebitis is an infectious disease, a definite entity in some way connected with the absorption of material from the wound. It is preceded by a slowing of the blood-stream, and by local and general disease of the vessel walls. It occurs at an earlier date in "clean" cases than in drainage cases. Rest in bed seems to be the only therapeutic measure capable of exerting any marked influence on the severity and course of the disease. Ichthyol seems to have a direct and constant influence on the local pain. Internal medication deserves a more thorough trial than it has had previously.

16. Angulation Simulating Duct Obstruction.—An epicritical review of this case leads Stetten to the following conclusions: After a simple cholecystostomy done in the most approved fashion on a comparatively normal gall-bladder, which was not in the least retracted and which was fixed to the peritoneum of the abdominal wall without the slightest tension, a symptom-complex develops which most strongly suggests the presence of a stone in the common duct. On relaparotomy no stone is found, but it is seen that an angulation has developed at the junction of the hepaticus and choledochus. At the angulation a valve has formed so that the flow of bile into the intestine is almost impossible. Hence the pain and jaundice when the biliary fistula was closed and the tendency to persistence of the fistula after it was reopened. Though there was no tension originally when the gall-bladder was fixed to the abdominal wall, there must have been a decided contraction of that organ after the first operation. This contraction, probably aided by the pull of the respiratory movements, resulted in the angulation. The condition was promptly cured by cholecystectomy, which permitted the angle at the junction of the ducts to straighten out.

21. Chronic Hemorrhagic Osteomyelitis.—The lesions in the ends of the long bones described as medullary giant-cell sarcoma, myelogenous giant-cell sarcoma, myeloma, and giant-cell tumor, Barrie does not include in the classification of tumors. The process begins as the result of a trauma, and gives all the clinical and pathologic evidence pertaining to a low-grade inflammation. The foundation on which the diagnosis of malignant tumor growth has been based is the presence in the tissues examined under the microscope of numerous giant cells which do not show any uniformity of architectural arrangement of boundary zones. It is an established fact that these giant cells are not tissue-builders, but scavengers, whose function is the removal of debris that is produced by low-grade inflammatory conditions occurring in bone. The whole process is explained on the basis of the lesion being due to a low-grade, ever-present irritation or inflammation, which causes excessive production of vascular granulation tissue masses. From the clinical picture and the gross and microscopic pathology which the condition presents, the term chronic (non-suppurative) hemorrhagic osteomyelitis seems a more correct definition of the lesion than the terms now in use.

Boston Medical and Surgical Journal

February 6, CLXVIII, No. 6, pp. 185-220

22 Some Functions of Free Dispensary. W. S. Thayer, Baltimore.
23 Treatment and Prevention of Obstinate Perineal Fistulas Following Operation for Stricture of Urethra. H. A. Lothrop, Boston.
24 *Circumscribed Epidemic of Diphtheria. H. M. Adler, Boston.
25 Tuberculosis and Public Health in South Africa. J. A. Honeij, Boston.
26 Nature of Feeling of Unreality. J. W. Courtney, Boston.

Two nurses contracted the disease and throat cultures were positive in eight cases. Although it is not improbable that the patient who introduced the Klebs-Loeffler bacillus into the ward, died of the effects of the same, Adler believes it would be hardly fair to state that she suffered from diphtheria. Just what the relation between this infection and her psychosis was, he does not say. With the known affinity of diphtheria toxin for the nervous system, he believes, it is likely that some connection existed.

Journal-Lancet, Minneapolis, Minn.

February, 1, XXXIII, No. 3, pp. 65-95

27 New Public Health and Tuberculosis. H. W. Hill, Minneapolis.

Journal of Biological Chemistry, Baltimore

February, XIV, No. 1, pp. 1-52

28 Researches on Purins. C. O. Johns, New Haven, Conn.
29 Creatin Content of Muscle Under Normal Conditions; Its Relation to Urinary Creatinin. V. C. Myers and M. S. Fine, New York.
30 *New Method for Drying Tissues and Fluids. J. Rosenbloom, Pittsburgh.
31 Protein Metabolism from Standpoint of Blood and Tissue Analysis. O. Folin and W. Denis, Boston.
32 Chemistry of Gluconeogenesis. A. I. Ringer, Philadelphia.

30. **Method for Drying Tissues and Fluids.**—The method described by Rosenbloom is based on the reaction between calcium carbid and water:

$$CaC_2 + H_2O = C_2H_2CaO$$
$$CaO + H_2O = Ca(OH)_2$$

and is said to have many advantages, especially when drying tissues preliminary to the extraction of the contained lipins. Most of the water undergoes reaction with the carbid to form acetylene, the mass of material being much less on that account than when using calcium sulphate or sodium sulphate, because the water is taken up by these salts to form the hydrated salt and the water still remains in the material. Also the calcium oxid formed in the reaction is a dehydrating agent and facilitates the drying. Another advantage in the calcium carbid method is said to be that on account of the hardness of the carbid it is unnecessary to add sand in the mixing and grinding of the material. Also after the substance is dried, on treatment with any of the lipin solvents it takes on a granular form, thereby giving the solvent the best chance of reaching the soluble lipins enclosed in the large amount of insoluble substance making up the tissue. Owing to the fact that the reaction between calcium carbid and water is markedly exothermic, it is possible that the heat developed might decompose certain of the constituents. This can be minimized by adding the carbid in small amounts to the material to be dried, contained in a porcelain dish packed in ice. When using the carbid for drying fluids, one simply adds the carbid in lumps until the material has lost its liquid form; then the powdered carbid is added till the drying is complete. The same method is used for tissues, with the addition of thoroughly mixing the carbid by grinding just as in the other methods. On account of the fact that acetylene is explosive and poisonous, Rosenbloom warns that it is wise to carry out the drying under a hood, free from flames.

Journal of Experimental Medicine, New York

February, XVII, No. 2, pp. 117-230

33 *Anaphylatoxins and Endotoxins of Typhoid Bacillus. H. Zinsser, San Francisco.
34 *Organic Matter in Expired Breath, with Special Reference to Its Inhibiting Power on Oxidizing Ferments. H. L. Amoss, Boston.
35 *Comparison of Action of Plasma and Serum on Certain Objects Used in Biological Test for Epinephrin. G. N. Stewart and T. F. Zucker, Cleveland.
36 Action of Hydrocele Fluid and Certain Other Pathologic Liquids on Some of Objects Used in Biologic Tests for Epinephrin. G. N. Stewart and T. F. Zucker, Cleveland.
37 *Degeneration and Regeneration of Axis Cylinders in Vitro. R. Ingebrigtsen, New York.
38 *Intestinal Obstruction in Rabbit. C. H. Bunting and A. P. Jones, Madison, Wis.
39 Intestinal Absorption in Infantilism. F. H. McCrudden and H. L. Fales, New York.
40 Cause of Failure to Develop in Infantilism. F. H. McCrudden and H. L. Fales, New York.
41 *Rôle of Lipoids, and Particularly Lecithin, in Narcosis. B. Kramer, New York.
42 Variations in Chicken Sarcoma Caused by Filterable Agent. P. Rous and James B. Murphy, New York.
43 *Demonstration of Treponema Pallidum in Brain in Cases of General Paralysis. H. Noguchi and J. W. Moore, New York.

33. **Anaphylatoxins and Endotoxins of Typhoid Bacillus.**—The experiments recorded by Zinsser confirm the observations of Friedberger that acutely toxic bodies can be produced from typhoid bacilli by the action of sensitizer and complement, and that, when small quantities of bacteria are used, an excess of sensitization either interferes with the formation of the poisons or leads to a cleavage of the bacterial proteid beyond the poisonous intermediate products spoken of as anaphylatoxins. Unlike the experience of other workers with poisons of this nature, however, these experiments have shown that the action of complement on typhoid bacilli strongly sensitized or not at all sensitized may be carried on at body temperature for considerably longer than twelve hours without leading to a destruction of the poisons, and that this is true when the quantities of the bacteria used vary within the wide range of from one to twelve agar slants. It has been found, in fact, that in the case of this micro-organism prolonged exposure at the higher temperature of considerable quantities of bacteria constitutes an unfailing method of regularly obtaining powerful poisons. The results obtained by the use of smaller quantities and the less vigorous complement action at low temperatures are far less regular or satisfactory. It would appear from this that complement action of considerable vigor is required to obtain from this bacillus any appreciable yield of anaphylatoxin and that the poison, once formed, is not as unstable as that found in other micro-organisms by others.

34. **Organic Matter in Expired Breath.**—The experiments recorded by Amoss show that a variable amount of matter is retained by weak hydrochloric solution when exhaled breath is passed through it, and that this matter is volatile on ignition. Contrary to the findings of Weichardt, there is no charring or blackening. Nesslerization shows the residue to consist mainly, if not wholly, of ammonium chlorid. This ammonia is believed to have come from the decomposition of food particles about the teeth. Weichardt's experiments on the inhibition of the guaiacum test for blood by means of the substances retained when exhaled breath is passed through hydrochloric acid or over calcium chlorid crystals are not corroborated. It is further shown that the guaiacum indicator is unreliable for these tests in view of the fact that a small amount of free acid or free alkali will inhibit the guaiacum test for blood. This fact is offered as a probable explanation of Weichardt's results. Calcium chlorid alone gives a deep blue color with the guaiacin indicator. Weichardt used this salt to collect from the expired breath certain unknown substances which he claims inhibit the oxidation of guaiacum by blood. His results are therefore inconclusive.

35. **Comparison of Action of Plasma and Serum.**—The main results which seem to follow their observations are summarized by Stewart and Zucker as follows: The substance or property, developed in shed blood by which it causes constriction of artery rings, is not developed, or at least not mainly developed, in connection with the actual change of fibrinogen to fibrin, since the constrictor action of different plasmas differs greatly, while the absence of coagulation is common to all. The development of the constrictor substance, or property, is associated with changes undergone probably by formed elements of the blood when it is shed. These changes may be identical with the alterations, or with some of the alterations, preliminary to clotting. It is possible, however, that there may be changes connected with the development of the pressor property which, although concomitant with the liberation of the substances concerned in the production of thrombin, are yet quite independent of the clotting process. The authors' observations do not enable them to decide definitely between these possibilities. The constrictor substance, or property, developed in shed blood acts especially on blood-vessels and does not equally affect the

other organs examined. This follows from the fact that a plasma and serum which differ markedly in their action on the blood-vessels may have practically the same action on the intestine or uterus segments, an action which must therefore reside mainly, at least, in the original plasma itself. The indication that the serum acts especially on blood-vessels increases the interest of the suggestion that this action may play an important part in the prompt sealing of wounded vessels in addition to the mechanical effect of the clot, or by coming into operation before the clot has fully formed.

37. **Degeneration and Regeneration of Axones in Vitro.**—Ingebrigtsen found that the brains of chick embryos, of cats six weeks old, of rabbits two months old and of dogs three weeks old, when cultivated *in vitro*, develop long filaments which, according to their growth and their anatomic and tinctorial characters, must be considered as true axis cylinders. Similar structures develop from spinal ganglia of rabbits seven months old, and from the spinal cord of cats six weeks old and of rabbits two months old. When severed from their origin by section these threads undergo degenerative changes which do not appear after nine hours, but which are seen after twenty hours, and continue until in the course of the following two days the thread degenerates completely. After twenty hours the development of the new axis cylinders from the central part of the cut fibers is observed.

38. **Intestinal Obstruction in Rabbit.**—The import of the series of experiments by Bunting and Jones is to the effect that the reabsorption of a toxic secretion from the lumen of the duodenum is the important factor in causing the rapid death of rabbits after high intestinal obstruction.

41. **Lipoids and Lecithin in Narcosis.**—The intravenous injection of 5 to 30 c.c. of a 5 or 10 per cent. emulsion of lecithin, depending on the size of the animal used, according to Kramer, does not interfere with the induction of anesthesia, and this can be accomplished as readily in animals thus injected as in controls. In six out of nine experiments lecithin had no effect on the rapidity with which the various phenomena which indicate the animal's recovery from the effects of the anesthetic appeared. These experiments do not bear out Reicher's assumption as to the cause of the lipoidemia, and the explanation of this phenomenon still remains an open question.

43. **Treponema Pallidum in Brain.**—Seventy paretic brains were examined by the authors, one of whom succeeded in finding the pallidum in twelve out of the seventy specimens. The cases in which the pallida were found showed the classical physical signs. The post mortem findings in the brain in every case were definitely those of general paralysis. Ten were men and two were women. Seven were of the cerebral type, and five of the tabetic. In several instances the patients had been picked up on the street in a confused state and had no idea of the duration of the condition. In seven cases in which the onset could be satisfactorily determined, the average duration was seventeen months, the longest thirty months and the shortest five months. The majority were much below the average duration, as estimated by various authors, which varies from twenty-four to thirty-two months. It is possible, then, that we are more apt to find the spirochetes in those cases which run a fairly rapid course. The age varied from 33 to 60 years, with an average of 44 years.

Journal of Medical Research, Boston

January, XXVII, No. 3, pp. 229-389

44 Benign Epithelial Tumors of Thyroid. D. Marine, Cleveland.
45 Growth Centers of Benign Blastomata; with Special Reference to Thyroid and Prostatic Adenomata. B. T. Simpson, Freiburg.
46 Studies in Canine Distemper. J. C. Torrey and A. H. Rahe, New York.
47 Unusual Type of Arteriocapillary Fibrosis Clinically Resembling Myasthenia Gravis. H. Brooks, New York.
48 *Inhibition of Hemolysis by Serum of Cancerous Individuals. W. O. Sweek and M. S. Fleisher, St. Louis.

48. **Inhibition of Hemolysis.**—The serum from eighteen cancer cases and twelve normal individuals was tested by Sweek and Fleisher for its anti-hemolytic properties with lactic acid; eighteen cancer cases and twelve normal individuals were tested with oleic acid. In no case was any marked increase of the inhibitory power of the serum of cancerous patients evident. It therefore appears that the determination of the anti-hemolytic activity of the serum of cancerous patients cannot be used as a diagnostic method, and furthermore, there is no evidence that an increased anti-hemolytic activity exists in the serums of cancerous patients; it also appears that the anti-hemolytic property of normal individuals living under uncontrolled conditions varies within rather wide limits.

Journal of Outdoor Life, New York

February, X, No. 2, pp. 33-62

49 Foreword After Ten Years. E. L. Trudeau, Saranac Lake, N. Y.
50 Journal of Outdoor Life, an Adventure in Journalism. L. Brown, Saranac Lake, N. Y.
51 From Patient's Viewpoint: Purpose of Outdoor Life. W. S. Carpenter, New York
52 Revised Estimate of Economic Cost of Tuberculosis. I. Fisher, New Haven, Conn.

Kentucky Medical Journal, Bowling Green

February 1, XI, No. 3, pp. 89-144

53 *Present Status of Operative Treatment of Fractures of Long Bones. A. H. Barkley, Lexington.
54 Idealism in Medicine. C. Pope, Louisville.
55 Nearing the Goal. J. G. Carpenter, Stanford.
56 Diagnosis of Epilepsy. J. J. Moren, Louisville.
57 *Public Health Problem; Constructive Efforts Toward Its Solution. W. L. Heizer, Bowling Green.

53 and 57. Abstracted in THE JOURNAL, November 30, p. 1998 and 1999.

Lancet-Clinic, Cincinnati

February 1, CIX, No. 5, pp. 113-140

58 *Unmistakable Clinical Proof of Therapeutic Value of Tuberculin. F. M. Pottenger, Monrovia, Cal.
59 Arsenic in Therapy. W. F. Barclay, Pittsburgh.
60 Modern Conceptions of Paranoia. C. D. Read, Hospital, Ill.
61 *Chemical Conditions Favoring Production of So-Called "Spores" in B. Tuberculosis. W. B. Wherry, Cincinnati.
62 Induced Pneumothorax in Treatment of Pulmonary Disease. A. J. Bell, Cincinnati.

58. Abstracted in THE JOURNAL, November 9, p. 1735.

61. **Production of Spores in B. Tuberculosis.**—Bodies which in appearance resemble the spores of other bacteria, have been described in the tubercle bacillus by Nocard and Roux, Metschnikoff, Klein, Coppen-Jones and others. They have been found most frequently in preparations from old pulmonary cavities and from old cultures. They have been described as rounded bodies of greater diameter than the bacilli. From one to three or more may occur in a single rod. They stain more intensely than the rest of the body of the bacillus, becoming brown or blackish-red, and hold the dye more strongly than the bacillus when treated with nitric acid. Attempts to show that these forms have greater resistance to heat and chemicals have failed. Yet they are often pictured in text-books as the "arthrospores" of the tubercle bacillus. During the course of a study of the symbiotic growth of a saprophytic strain of *B. tuberculosis* with other bacteria, W. L. Shannon, one of Wherry's students, noted the constant occurrence of these forms when the culture was grown along with a certain strain of *B. coli*. His results explain, Wherry says, the especially frequent occurrence of the "sporulating" forms in old pulmonary cavities. The following observations go a step further and were made during a study of the growth of the same saprophytic strain of *B. tuberculosis* in synthetic mediums—containing distilled water, certain necessary salts and varying [illegible] known sources of carbon and nitrogen. Some of these experiments show that the forms above described, contain[illegible] strongly acid-proof granules, develop beautifully [illegible] containing ammonium chlorid as a source of [illegible] propyl alcohol, mannite and levulose used [illegible] of carbon. These cultures distinctly exhibit a [illegible] consistence when spread on a side. Vital stai[illegible] number of basic aniline dyes show that the [illegible] granules have a marked affinity for many of [illegible] ous solution. This evidently shows [illegible]

granules, though they may be of a fatty or waxy nature, probably differ in composition from the protoplasm of virulent tubercle bacilli.

Although the culture used in these experiments is ordinarily only feebly acid-proof, it becomes strongly so or entirely nonacid-proof under certain methods of cultivation. Experiments are in progress to determine the value of some of these cultures in the production of immunity.

Laryngoscope, St. Louis

January, XXIII, No. 1, pp. 1-80

63 Need of a Standard in Voice Production. W. J. Henderson, New York.
64 Result of Eighteen Years of Research Work on Voice Production and Analysis. W. Hallock and F. S. Muckey, New York.
65 Standardization of Vocal Training from Teacher's Standpoint. H. H. Brown, New York.
66 Vocal Art Science from Standpoint of Use and Abuse of Voice. F. E. Miller, New York.
67 *Case of Aphthongia. F. V. Laurent, Pittsburgh.
68 Eight Years of Chloroform Anesthesia in Nose and Throat Surgery. C. P. Grayson, Philadelphia.

67. **Aphthongia.**—Aphthongia is a very rare affection, only three cases having been recorded. The first case was recorded by Panthel of Ems in 1855. Fleury defined it as cramps in the territory of the hypoglossi, which set in whenever an attempt to speak was made and which rendered articulate expression extremely difficult or impossible. The cause is great emotional excitement or fright. Laurent reports a case occurring in a girl 15 years old. When 9 years of age she fell down a flight of steps and hit her head on the pavement, and while not injured apparently, she suffered a great fright. Before this time, she had had no speech difficulty, but after this fall, on attempting to speak, the tongue would be pulled back and the lower jaw pulled downward and to the right side. This condition has lasted for six years. When Laurent first saw her she still had these symptoms and he noticed also that when she attempted to speak, the extrinsic muscles of the larynx supplied by the hypoglossal nerve (the sternothyroid and thyrohyoid) and the sternohyoid muscle fell into violent vibrating movements. This was only on the right side. Patient said she felt as though a hand was clutching her throat and pulling her tongue back and that she felt great pain when trying to speak. Now, after six months, she says it does not hurt her at all to talk, the feeling of constriction in the throat has disappeared and there is no muscular spasm, although there is still the backward traction of the tongue to a slight degree. She still has some trouble with the linguals and will have to remain in Laurent's care for further training. The treatment used was massage of the offending muscles and teaching her to remove the strain from the laryngeal muscles by "bringing the voice forward." This was done by making the attack of the initial tone with the lips closed (in which way only a pure head-tone can be produced) afterward using the head-tones with the lips just far enough apart to permit of articulation.

Medical Record, New York

February 1, LXXXIII, No. 5, pp. 185-230

69 Newer Problems and Newer Phases of Antituberculosis Warfare in United States. S. A. Knopf, New York.
70 Gastric Motor Functions. C. S. Fischer, New York.
71 Hygiene for Normal Child. I. S. Wile, New York.
72 Clinical Examination of Feces. A. F. R. Andresen, Brooklyn.

February 8, LXXXIII, No. 6, pp. 231-276

73 General Anesthesia by Intravenous Route. W. F. Honan and J. W. Hassler, New York.
74 *Preliminary Report of Operations Under Extradural Anesthesia. J. M. Lynch, New York.
75 Experimental Psychology and Medicine. H. L. Hollingworth, New York.
76 Treatment of Benign Papillomata of Urinary Bladder with Oudin High-Frequency Current Introduced Through Catheterizing Cystoscope. E. Beer, New York.
77 Literary Genius and Manic-Depressive Insanity. E. C. Reid, Washington, D. C.
78 *New Chemistry and New Materia Medica. H. Hille, Chicago.
79 Neglect of Oral Treatment in Infectious Diseases. C. E. Field, New York.

74. **Operations Under Extradural Anesthesia.**—The method described by Lynch is said to be absolutely free from danger; it insures a perfect anesthesia, prevents shock, and allows of any surgical procedure below the culdesac of Douglas. It can be used in any of the following procedures: cystoscopy and operations on the urethra, prostate, perineum, rectum, and lower extremities. The safest method to adopt, especially by those who are not familiar with this procedure, Lynch says, is to make an incision a little in front of the sacrococcygeal joint, and if necessary extend it until an opening is found. This can be done under local anesthesia.

The point at which the needle is to be inserted is first decided on. This can be determined by following the sacral spinus processes until they are found lacking. Slightly above this point will be found the opening of the canal. If, as happens in most cases, there is a bifid spine, the ridges can easily be felt, except in very fat subjects. If the canal opens near the sacrococcygeal joint this point is selected. Then, having first determined the point at which the needle is to be inserted, and this is always in the median line, it is painted with tincture of iodin. Next, a little ethyl chlorid is sprayed on the skin and a hypodermic syringe, containing a solution of 1-500 cocain, with an ordinary hypodermic needle, is next employed in order to anesthetize the skin over the area in which the needle is to be inserted, so that a small incision can be made without causing any pain. It is always better to incise the skin in order to obviate any chance of infection.

The following procedure is used in passing the needle. The needle is grasped in the right hand, and the index finger placed close to the point. It is then passed at an angle of about 15 degrees until the bone is reached. The needle is then passed close to the bone until it has been entirely inserted for about one inch. When the needle is found to be in the canal about 4 c.c. of the same solution is deposited on each side. This is usually sufficient. After this has been done the trocar is reinserted in order to prevent the escape of fluid, and the needle, with the trocar, allowed to remain in position until anesthesia is established. The reason for this is because if the anesthesia is not established after fifteen minutes it may be necessary to inject 1 or 2 c.c. more, and this is made much simpler if the needle has been left in place. It is important for the fluid to be absolutely sterile and freshly prepared; also of the same specific gravity as the blood in order that it may be absorbed readily.

After anesthesia has been established the needle is withdrawn, and some cotton and collodion placed over the wound. The patient is then placed in whatever position is desirable in order to perform the operation, and the rest of the procedure depends on what particular operation has been undertaken.

78. **New Chemistry and New Materia Medica.**—Hille summarizes his paper as follows: 1. Inorganic matter and organic material are the same in essence but different in form and structure. 2. The inorganic world is crystalline. The organic world is colloidal. 3. The inorganic is coarse in particle and slow in vibratory activity. The organic is fine in particle and rapid in vibratory activity. 4. Mineral bodies, in organic form, are an essential constituent of food and of the animal organism, and are of vital importance in the prevention as well as the cure of disease. 5. Crystalline, or inorganic, minerals are not fit to serve as food or remedies for the animal organism. They will, therefore, eventually be eliminated from materia medica and replaced by vitochemical, or true organic, minerals. 6. The smaller the particles of a colloidal mineral, and the higher their rate of vibration, the better is it assimilated and adapted as a remedy. 7. Many of the so-called "organic" salts are not organic in the true sense because all, or part, of the compound is still crystalline and not colloidal. 8. The old chemistry, whose days are numbered, is unable to differentiate between inorganic and organic. 9. The new chemistry has not only made clear the difference between inorganic and organic, but also sheds its light on a problem which in the old chemistry was one of the most profound mysteries, viz., Nature's evolutionary principle.

Mississippi Medical Monthly, Vicksburg

February, XVII, No. 10, pp. 191-209

80 Cause and Prevention of Typhoid from Public Health Viewpoint. J. T. Longino, Jonestown.
81 General Anesthesia. H. H. West, Gulfport.

New Orleans Medical and Surgical Journal

February, LXV, No. 8, pp. 559-634

82 Medical Interest in Canal Zone. O. Joachim, New Orleans.
83 Neurologic Case Demonstrating Associated Movements of Upper Extremities. E. W. Phillips, U. S. Navy.
84 Case of Acute Nephritis, with Uremia, Following Salvarsan. P. J. Kahle, New Orleans.
85 Developmental Defects of Female Genitalia; Report of Five Cases. H. W. Kostmayer and M. J. Gelpi, New Orleans.
86 Management of Normal Labor. A. C. King, New Orleans.
87 Comparative Value of Abdominal and Vaginal Examination in Diagnosis of Fetal Presentation and Position. W. D. Phillips, New Orleans.
88 Interstitial Pregnancy. W. Kohlmann, New Orleans.
89 Surgical Treatment of Puerperal Infection. C. J. Miller, New Orleans.
90 Conservatism in Gynecologic Surgery. M. A. Shlenker, New Orleans.
91 Rôle of Roentgen-Ray in Progressive Medicine. A. Henriques, New Orleans.

New York Medical Journal

February 8, XCVII, No. 6, pp. 269-320

92 *Double Function of Fats and Carbohydrates in Nutrition and Their Different Nutritive Properties. H. D. Chapin, New York.
93 Relation of Scoliosis to School Seating. J. W. Sever, Boston.
94 Prostitution in Japan. D. C. McMurtrie, New York.
95 Physical Therapeutics from Modern Point of View. W. B. Snow, New York.
96 High-Frequency Currents in Medicine. F. de Kraft, New York.
97 Mouth from Diagnostic Standpoint. M. Manges, New York.
98 Ocular Headache. A. Brav, Philadelphia.
99 Medical Inspection of Schools. J. F. Edwards, Pittsburgh.
100 Chronic Ulcers of Leg. W. Brady, Elmira, N. Y.
101 Gastric Symptoms in Incipient Tuberculosis. M. M. Jacob, Philadelphia.

92. **Fats and Carbohydrates.**—Fats and carbohydrates, Chapin says, serve two distinct purposes in nutrition which are equally important: They furnish energy which, when expended, liberates heat, and they also supply water to the cells in such a manner that it dilutes the cell contents and reduces their osmotic pressure so as to produce an automatic flow of nutriment to them from the more concentrated blood as soon as it is needed. Fats are more effective producers of metabolic water than carbohydrates. Metabolic water produced from fats weighs more than the original fat and results from a combination of the hydrogen of the fat with oxygen from the blood. Metabolic water derived from carbohydrates is a residual product obtained by splitting the carbohydrate, and weighs about two-thirds as much as the original carbohydrate. In milk, the natural food of rapidly growing young animals, which require much metabolic water to promote cell nutrition, fat supplies the greater part of the metabolic water. In hen's eggs it supplies practically all of it. The amount of heat or the number of calories excreted is a measure of the food that is being burned, but does not show how much is needed for growth. The energy or caloric need of the body does not depend upon its size or weight, but upon its activity. The number of calories a food will yield is not an indication of its nutritive value. The caloric requirements of the body to maintain it intact depend on the amount of energy expended. The number of calories the food, which is to supply these requirements should yield, depends on its caloric value after deducting the number of calories needed for its digestion and assimilation. The amount of energy needed for digesting a food depends largely on its physical condition.

Washington (D. C.) Medical Annals

January, XII, No. 1, pp. 1-72

102 *Medical Sectarianism. J. B. Nichols, Washington, D. C.*
103 Three Cases of Xeroderma Pigmentosum. C. A. Simpson, Washington, D. C.
104 Management of Juvenile Psychasthenia, with Cases to Illustrate Successful Treatment. T. A. Williams, Washington, D. C.

Wisconsin Medical Journal, Milwaukee

January, XI, No. 8, pp. 239-272

105 Simplification of Some Diets. S. Strouse, Chicago.
106 Public Housekeeping with Reference to Sanitation. J. Riddle, Oshkosh.
107 Plan for Medical Inspection of Country Schools. R. H. Kinney, Lancaster.
108 Treatment of Fractures. V. F. Marshall, Appleton.
109 Case of Epithelioma of Lip Complicated by Xanthoma Tuberosum Multiplex. A. Drexel, Milwaukee.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

December 14, XXXII, No. 24, pp. 599-622

1 Treatment of Epilepsy by Chloretone. B. J. Bentley.
2 Fresh Bread vs. Stale. J. Jamieson.
3 Treatment of Spastic Paralysis. M. Herz.

December 21, XXXII, No. 25, pp. 624-646

4 Malignant Growth of Large Intestine. G. H. Abbott.
5 Pseudochylous Ascites. J. B. Nash.

December 28, XXXII, No. 26, pp. 647-670

6 Tuberculous Rheumatism. F. G. Griffiths.
7 One Hundred and Fifty Consecutive Cases of Cataract Extraction. E. T. Smith.
8 Case of Exostosis of Femur. G. H. Abbott.

Brain, London

November, XXXV, No. 2, pp. 61-198

9 Growth and Survival Period of Intracranial Tumors, Based on Records of 500 Cases, with Special Reference to Pathology of Gliomata. H. H. Tooth.
10 *Paths of Encephalic Infection in Otitis. C. Tylor.
11 *Some Rarer Manifestations of Parasyphilis of Nervous System. A. R. Wilson.

10. **Paths of Encephalic Infection in Otitis.**—The possible pathways of infection in the various intracranial complications secondary to infective otitis media are discussed by Tylor. Infection through vascular channels appears to be responsible for most cases of lateral sinus thrombosis, while vascular infection is a cause of extradural and brain abscesses in a large number of cases. Many cases of extradural abscess are due to disease of the petrous bone, especially its posterior surface and tegmen; in those cases in which the bone is unaffected, the dura mater becomes infected through a septic endophlebitis of a vein of the tympanic mucosa extending to a vein of the dura. Cerebral and cerebellar abscesses may be due to direct contact of the brain with diseased dura mater; if perforation of the latter takes place, direct extension to the cerebral surface may occur; if no perforation occurs, the disease may spread to the brain by infection of the veins in the dura, with extension from them to the vessels of the pia-arachnoid, and from the latter to the interior of the brain. Cerebellar abscess is also often secondary to infective labyrinthitis, extension of the disease taking place along the nerve-sheaths, or directly in the region of the posterior semicircular canal. Leptomeningitis is either (a) secondary to a gross intracranial lesion or bone disease, in which case it is due to the rupture of an abscess into the intradural space or to vascular infection from the lateral sinus, abscess, or bone, as the case may be; or (b) to labyrinthitis, with infection spreading along the nerve-sheaths, or vascular infection from the middle ear direct.

The results of this investigation show that infection of the labyrinth is responsible for many cases of cerebellar abscess and meningitis of otitic origin. Formerly, disease of the labyrinth, owing to lack of knowledge as to its pathology, did not receive sufficient attention as a cause of intracranial infection. Of recent years, however, our knowledge of the diseases affecting it, and their bearing on the subject of encephalic infection, has increased rapidly. At the present time, surgeons when operating for disease of the middle ear pay more attention to fistulas or necrosis of its inner wall as evidence of possible labyrinthine involvement. Moreover, various clinical tests which have been introduced lately, such as the rotation tests and the caloric and galvanic reactions, when taken together, appear to afford a fairly sure means of diagnosing this condition. In this way many cases of labyrinthine infection are discovered which in earlier years would almost certainly have been overlooked. Many cases of tuberculous and non-tuberculous cerebrospinal meningitis occur in patients with infective ear-disease in which the latter is not the obvious cause of the meningitis, and the question as to whether the ear can be regarded as being the channel of infection in such cases requires to be further investigated.

11. **Parasyphilis of Nervous Syst**[illegible].—There is no doubt in Wilson's mind that in [illegible] cases of tabes and general paralysis of [illegible]

They are parasyphilitic nervous diseases. There is evidence that at all events some cases of primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy, are parasyphilitic too. A history of syphilis or a positive Wassermann reaction, and in some instances the post-mortem examination, point to this being so. In tabes and general paralysis there is degeneration of certain neuronic tracts or groups; and degeneration of precisely the same character in other neuronic groups produces primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy. Combinations of all three with tabes or general paralysis of the insane, or with both, or among themselves, are so frequent that it is difficult to withstand the conclusion that their essential etiologic factor is the same, more especially since it is conceded that syphilis has a great affinity for the nervous system. If it be allowed that the neuronic degeneration of primary optic atrophy, primary lateral sclerosis or progressive muscular atrophy when combined with that of tabes or general paralysis is due to syphilis, it cannot be denied that such degeneration, occurring uncombined, may still be parasyphilitic. The Argyll Robertson pupil is recognized as a symptom of tabes and general syphilis; in other words it is a parasyphilitic manifestation. It is found also with primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy. If the question of antecedent syphilis were carefully investigated in every case of primary optic atrophy, primary lateral sclerosis and progressive muscular atrophy, or better still if every case were subjected to Wassermann's test as well, Wilson believes that an accumulation of evidence, entirely analogous to that obtained in determining the etiology of tabes and general paralysis, would soon be at hand, and that these three diseases would take their rightful place among the rarer manifestations of parasyphilis of the nervous system.

British Medical Journal, London

January 25, I, No. 2712, pp. 149-204

12 *Work Carried Out at Radium Institute from Aug. 14, 1911, to Dec. 31, 1912. A. E. H. Pinch.
13 Report of Chemico-Physical Laboratory. W. L. S. Alton.
14 Diagnosis and Treatment of Cancer of Rectum. W. E. Miles.

12. **Therapeutics of Radium.**—This is the first report of Mr. Hayward Pinch, the Medical Superintendent of the Radium Institute, founded in London in 1911, at the suggestion of King Edward VII, and through the munificence of Sir Ernest Cassel and Viscount Iveagh. Sir Frederick Treves is chairman of the executive committee of the institute. No examples of malignant disease, with the single exception of rodent ulcer, have been treated unless operation has been declared to be unjustified or the patient has absolutely refused operation. The total number of patients suffering from epithelioma who applied for treatment at the institute was 147; of these, thirteen were not treated; in eight the treatment was commenced so recently that no opinion on its result can be stated, and in fifteen the application of radium was prophylactic only. This was undertaken, although it was abandoned by twenty-three patients. Of the eighty-eight cases that remain if these be deducted, twenty are not improved and twenty-two are dead; if to them, on the assumption that the abandonment was due to the patients' disappointment with the result, are added the cases in which the treatment was abandoned, there is a total of sixty-five failures, or nearly three-fifths. There were seven cases in which the patient was apparently cured and thirty-nine in which there was improvement—a total of forty-six, or about two-fifths.

In cancer of the breast the treatment failed in thirty-eight cases and was attended with more or less success in thirty-five, and in cancer of the rectum it failed in twenty-seven cases, or about three-fourths, and succeeded in ten, or rather over one-fourth. The report is quite definite in advising that radium should never be used in cancer of the breast as a substitute for operation and the same is true of cancer of the rectum. It seems established, however, that, in inoperable cases of cancer of the breast, radium is often able to relieve pain and promote secondary deposits; in a few instances superficial carcinomatous nodules and enlarged glands disappeared, and reports are given of several such cases in which the results were very remarkable.

In cancer of the uterus the immediate results reported are so satisfactory that it would appear well worth while to submit any patient with inoperable disease to the radium treatment. It has been applied by introducing into the cervical canal a tube containing radium for periods of thirty to sixty hours spread over five or ten days. In a considerable proportion of cases hemorrhage is arrested, discharge diminished and rendered inoffensive, ulceration healed, pain relieved, and the growth even in some cases stopped. Out of thirty-nine patients treated, three were apparently cured, while nineteen were improved, but the report points out that the action is only local, that in most cases dissemination will occur.

The evidence as to rodent ulcer seems to justify the conclusion that the best advice which can be given to a patient with rodent ulcer of the skin is to resort at once to treatment by radium. It has been found that if the lesion has been treated for prolonged periods by the Roentgen-rays, zinc ionization and carbonic acid snow, the healed tissue frequently breaks down after radium and repair is slow and imperfect. A small rodent ulcer limited to the skin and not previously treated may be cured by a single exposure, probably because it is safe to use a full-strength applicator unscreened. With a large ulcer it is necessary to proceed more cautiously, as an unscreened application to the whole area will produce severe systemic disturbance. Different parts of the surface are therefore treated at intervals of three or four weeks. If the disease has attacked bone or cartilage, still more caution is requisite to avoid the risk of acute painful and prolonged inflammation. Rodent ulcer of a mucous membrane is refractory to treatment by radium, though small lesions of the palpebral mucous membrane often respond well to a strong unscreened application. The statistics are encouraging. Omitting one case in which the application was prophylactic only, and ten so recent that the result cannot be stated, there remain ninety cases. Of these patients, twelve were not improved, six abandoned treatment, thirty-one were apparently cured, and forty-one improved. If it is assumed that treatment was abandoned owing to its want of success, it will be seen that the treatment failed in one-fifth of the cases, succeeded in about one-third and produced improvement in the remainder.

All the patients who applied to the institute were treated. The sarcoma patients are relatively few; twenty-six were treated, of whom nine, or about one-third, were improved, it being said of two of them that they are apparently cured. Among the other diseases treated the most striking results were obtained in keloid and nevus. Of the fourteen cases of keloid or keloid acne treatment, three are reported cured and eight improved, while the treatment was abandoned in the remaining three. One of the chief practical difficulties in the therapeutic application of radium is so to adjust the strength and duration of the application as to avoid a severe reaction. The cause and nature of the reaction have not yet been fully elucidated. Why it should commonly be delayed for two, three or even four weeks, is not clear and no explanation has been suggested. In some cases in which an eroded surface exists the radium reaction proper is, there can be little doubt, complicated and aggravated by septic infection, and it would seem that in some such cases the severe pain suffered during the reaction is in part, at least, due to this cause.

Clinical Journal, London

January 1, XLI, No. 13, pp. 193-208

15 Shock. A. H. Tubby.
16 Diseases of Children. H. T. Ashby.
17 Rational Treatment of Venereal Diseases. J. E. R. McDonagh.

January 8, XLI, No. 14, pp. 209-224

18 Affections of Esophagus. W. C. Bosanquet.
19 Neurology: Sensory Disturbances. C. M. H. Howell.
20 Clinicalia. F. W. Langridge.

January 15, XLI, No. 15, pp. 225-240

21 Fractures. T. H. Openshaw.
22 Neurology: Electrical Testing of Muscles; Lumbar Puncture. C. M. H. Howell.

January 22, XLI, No. 16, pp. 241-256

23 Hilus (and Peri-Hilus) Tuberculosis and Its Sequelae. R. M. Leslie.

Journal of Tropical Medicine and Hygiene, London

January 15, XVI, No. 2, pp. 17-32

24 Disease in Madagascar. C. J. A. Moss.

Lancet, London

January 25, I, No. 4665, pp. 217-296

25 Treatment of Inoperable Cancer. A. P. Gould.
26 *Etiology of Endemic Goiter. R. McCarrison.
27 Treatment of Meningitis of Otitic Origin. W. Milligan.
28 Case of Adenomyoma Uteri. J. B. Hellier.
29 Hypertrophic Stenosis of Pylorus in Adults. H. G. Barling.
30 Malaria in India and Birth- and Death-Rate. W. H. Kenrick.
31 *Pathogenicity and Virulence of Bacteria. F. H. Thiele and D. Embleton.
32 Jugular Pulse. H. W. Verdon.
33 Case of Hair Cast of Stomach; Gastrotomy; Recovery. L. Storey.

26. **Etiology of Endemic Goiter.**—McCarrison reiterates his belief, based on experiments that thyroid enlargement can be experimentally produced in man within a few weeks by the administration of the suspended matter separated by filtration from goiter-producing waters. It cannot be so produced when the suspended matter is boiled. The goiter produced in this way must almost certainly be due, not to the mineral, but to the living component of the suspended matter. While it cannot be said to be definitely proved by these experiments that filtration through a Berkefeld filter wholly deprives the water of its goiter-producing properties, water so treated does not appear to be capable of causing goiter in man within a period of fifty-five days. The results of McCarrison's experiments and observations indicate that the living excitant of goiter exists in greatest abundance in the deposit at the bottom and sides of water-channels, tanks, wells and other receptacles of goiter-producing water.

The characteristics exhibited by experimentally produced goiter in men are: (1) It usually appears about the fifteenth day of the experiment. (2) It shows a marked tendency to fluctuate in size. (3) It reaches its point of maximum size between the twenty-fifth and thirtieth day of the experiment. (4) The enlargement of the gland is not great, nor is it progressive under the conditions of the experiment. (5) It is accompanied, as a rule, with certain subjective symptoms of throbbing in the neck and feelings of fulness and discomfort. (6) It may completely disappear under the conditions of the experiment. The cumulative evidence of experiments, together with other facts and observations is, to McCarrison's mind, conclusive proof of the proposition which he now lays down, that soil is also a vehicle of the *contagium vivum* of goiter.

31. **Pathogenicity of Bacteria.**—The authors point out that ferments form an important normal mechanism of defense against bacterial invasion. The ferments performing this important function are: (a) the normal panenzyme, (b) the slightly differentiated specific enzyme, (c) the thermolabile specific coenzyme or amboceptor and (d) the thermostable specific coenzyme or amboceptor. These last two adjuvant and accelerate the action of the ordinary enzyme. The action of the ferment is to bring about proteolytic digestion of the bacteria. Exotoxins and endotoxins are bacterial protoplasm and are not primarily toxic *per se*, but only become so when acted on by the ferments. The action of the ferments on the bacterial protoplasm is to produce toxic early proteolytic digestion bodies. These bodies, besides being toxic to the animal, are also aggressive in the sense of Bail—i. e., are antiphagocytic. The action of this toxic substance, besides being aggressive, is to produce (a) in large amounts, death; (b) in lesser amounts, fall of temperature; and (c) in small amounts, fever. This substance is the cause of death in all bacterial infections. The virulence of a bacterium is dependent on the power of exuding around itself a zone of its cytoplasm, which remains in position and acts as a protective shield. The production of a zone of ferment equilibrium in this shield protects the bacterium itself from the penetration of the ferment. The shield thus acted on is also aggressive to phagocytosis. Pathogenicity is due to (a) the virulence of the bacterium, and (b) the relative activity of the ferment to the bacterium. Thus they would say that immunity is due to ferment action and phagocytosis—i. e., it is cellulo-humoral.

Medical Press and Circular, London

January 1, XCV, No. 3843, pp. 1-26

34 True and False Gastric Dyspepsias. A. Cawadias.
35 Neurology of Visual System. (To be continued). H. Campbell.
36 Some Specific Methods of Treating Tuberculosis of Lungs. W. M. Crofton.
37 Chalazion. J. Doulai.

January 8, XCV, No. 3844, pp. 27-54

38 Teeth in Relation to Pulmonary Tuberculosis. G. Thomson.
39 Neurology of Visual System. (To be continued). H. Campbell.
40 Clinical Interpretation of Results of Urinary Analysis. M. Labbe.
41 Still-Births in Relation to Infantile Mortality. R. Dudfield.

January 15, XCV, No. 3845, pp. 55-82

42 Cancer of Liver or Pancreas. W. H. White.
43 *Female Sterility as Salient Feature of General Tuberculosis of Peritoneum. E. H. Tweedy.
44 Neurology of Visual System. (Concluded). H. Campbell.
45 Fixation Abscess. L. De Savarel.

January 22, XCV, No. 3846, pp. 83-108

46 Treatment of Facial Neuralgia and Facial Hemispasm. M. J. Sicard.
47 Differential Diagnosis of Swelling in Breast. C. A. Morton.
48 Considerations of Bismuth Meal. H. A. S. Newton.
49 Catha Edulis (Abyssinian Tea). J. C. McWalter.

43. Also published in *Journal of Obstetrics and Gynecology*, January, 1913.

Archives des Maladies du Cœur, etc., Paris

January, VI, No. 1, pp. 1-80

50 Roentgenography of Adhesion of the Pericardium. (Etude radiologique de la symphyse cardiaque et des adhérences partielles du péricarde.) H. Vaquez and E. Bordet.
51 Anemia of Pernicious Type in the Tuberculous. (Anémie hémolysinique du type pernicieux avec hémosidérose viscérale chez un tuberculeux.) G. Roque, J. Chalier and L. Nové Josserand.
52 Tuberculosis as a Factor in Myeloid Leukemia. (Rôle de la tuberculose dans l'étiologie de la leucémie myéloide.) A. Nanta.

Bulletin de l'Académie de Médecine, Paris

January 7, LXXVII, No. 1, pp. 1-18

53 Carrel's Work on Organs Living Outside of Organism. (Vie autonome d'appareils viscéraux séparés de l'organisme d'après les nouvelles expériences de M. Alexis Carrel.) S. Pozzi.

Bulletins de la Société de Pédiatrie, Paris

December, XIV, No. 9, pp. 477-520

54 *Scarlatinal Uremia with Blindness. (Encéphalopathie scarlatineuse. Début par amaurose. Réaction méningée toxique.) H. Méry, H. Salin and A. Wilborts.
55 *Pulmonary Complications of Scarlet Fever. R. Porak.
56 *Bottle Exercise for the Lungs. (Nouvelle méthode d'exercices respiratoires progressifs, procédé de la bouteille.) J. Pescher.

54. **Scarlatinal Uremia.**—A case is reported in which a child of 7 twenty-two days after the onset of scarlet fever of the ordinary type developed extremely severe headache, with a little vomiting and diarrhea, and amaurosis. Lumbar puncture showed the spinal fluid under high pressure but limpid, with slight lymphocytosis and considerable albumin, and a slight increase in the urea content. Venesection and lumbar puncture were done twice and improvement rapidly followed. By the sixth day the urine was free from albumin, and lumbar puncture showed the fluid normal and the child seemed to have entirely recovered. Notwithstanding the insignificance of the albuminuria and its brief duration and the absence of anasarca and disturbances on the part of the heart, the diagnosis of scarlatinal uremia seems beyond question—a toxic reaction on the part of the meninges. The case resembles the thirteen reported by Rilliet and one previously observed by Méry although in the latter case the cerebral accidents progressively increased, the child dying in convulsions in a few hours after the first symptoms. They had developed at the end of the first week of an ordinary scarlet fever.

55. **Pulmonary Complications in Scarlet Fever.**—In the first case reported by Porak the scarlet fever developed two weeks after varicella with a tendency to hemophilia. During convalescence from the scarlet fever occurred bronchopneumonia with multiple abscesses in the lung and pyopneumothorax. In the second case there was [illegible] in the lung from [illegible]terial thrombosis of strept[illegible] each case are given.

56. Summarized i

Journal de Médecine de Bordeaux

January 19, XLIII, No. 3, pp. 35-48

57 The Participation of the Brain in Training the Muscles. (Le mécanisme mental de l'éducation neuro-musculaire.) P.-Nadal.
58 *The Mercury Index of the Blood. (Rapports entre l'indice mercurique du sang et la teneur de ce liquide en hémoglobine et en globules.) L. Chelle.

58. **The Mercury Index of the Blood.**—Chelle states that the hemoglobin and corpuscle content of the blood can be estimated by the precipitation which occurs in the blood under the influence of Mayer's reagent plus acetic acid. He does not give the details of the technic, referring to a previous communication, but he tabulates the findings of the index in seven healthy persons and in a large number of patients with various affections. The technic is extremely simple and the index can be used for comparison of the character of the blood as typical for various morbid conditions and thus an aid in diagnosis.

Lyon Médical, Lyons

January 5, XLV, No. 1, pp. 1-48

59 Prophylaxis of Typhoid Fever. (Quelques reflexions sur les divers modes de contagion de la fièvre typhoide. Les meilleurs moyens prophylactiques à leur opposer.) H. Rondet.

Presse Médicale, Paris

January 11, XXI, No. 4, pp. 29-40

60 Congenital Strictures of the Rectum. P. Reclus.

January 15, No. 5, pp. 41-48

61 Different Attitude of Forearm with Various Traumatic Lesions. (Pronation et supination de l'avant-bras dans les lésions traumatiques.) E. Destot.
62 The Platelets in Coagulation of the Blood. (Rôle et importance des plaquettes dans la coagulation du sang.) P. Pagniez.

Revue de Gynécologie, Paris

November, XIX, No. 5, pp. 401-528

63 Non-Malignant Tumors of the Breast. (Tumeurs bénignes de la mamelle.) M. Letulle.
64 Operative Treatment of Torsion of the Large Intestines. H. E. Duroux.

Semaine Médicale, Paris

January 15, XXXIII, No. 3, pp. 25-36

65 *Development of Tumors in Anilin-Dye Workers. (Du développement de neoplasmes sous l'influence de l'industrie des couleurs synthétiques.) S. G. Leuenberger.

65. **Cancer in Urogenital Tract of Workers on Synthetic Dyes.**—Practically the same article was summarized in The Journal, Nov. 30, 1912, p. 2009, with editorial comment Jan. 18, 1913, p. 206.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXV, No. 3, pp. 355-437. Last indexed Jan. 18, p. 248

66 *Kuhn's Aspiration Mask. (Die Kuhnsche Lungensaugmaske.) S. Brotzen.
67 Case of Primary Tuberculosis of the Tubules of the Testicle. (Fall von primärer Tuberkulose der Samenkanälchen des Hodens und des Nebenhodens.) A. Balliano.
68 Development of Susceptibility to Tuberculin in Incubation Stage of Tuberculosis. (Entwickelung der Tuberkulinempfindlichkeit im Inkubationsstadium der Tuberkulose.) K. Dietl.
69 *Fatal Embolism During Artificial Pneumothorax. (Ueber einen in seiner Entstehungsweise eigenartigen Fall von Stickstoffembolie.) Zink.

66. **Kuhn's Aspiration Mask.**—Six years have passed since E. Kuhn, an army surgeon, called attention to the advantages of inducing negative pressure in the lungs as a means of hyperemia, and devised a mask which automatically aspirates the blood from the heart into the lungs. Brotzen here describes extensive application of the mask at the great Beelitz sanatorium near Berlin, and discusses the theories on which it is based and the experiences of others with it. He used the mask on 118 patients; they wore it from fifteen minutes to an hour three times a day while reclining. A number of beneficial effects were observed, slowing of the respiration rate, reduction of the cough, improvement of the appetite and hemoglobin percentage, but the most striking result was the ability to sleep at night. The effect in this line was so striking that Brotzen thinks the mask might prove useful also for sleeplessness in neurasthenia. The mask also influenced very favorably various difficulties in breathing, especially asthma. A number of patients with asthma found that by putting on the mask when they felt an attack impending they could ward it off or abort it. The most striking objective results of the mask treatment were obtained in acute and chronic bronchitis, chronic pneumonia or pleurisy. Fürbringer alone has emphasized this beneficial action of the mask in chronic bronchitis and pleurisy. Brotzen gives the details of thirty cases and then adds a communication from eight patients in turn, describing their own impressions of the mask, their repugnance to it at first, their dislike of the smell of the rubber, but their growing appreciation of the benefit derived and their final enthusiasm for it. Brotzen summarizes his own impressions in the statement that the mask is not only a fine prophylactic but also a fine curative measure, especially in the mild to moderately severe cases of pulmonary tuberculosis and also in acute and chronic bronchitis, asthma, emphysema, chronic pneumonia, chlorosis and pleurisy. [The principle of the mask was described in The Journal, Oct. 15, 1910, p. 1420. It looks like a small muzzle fitting over the nose and mouth. Valves permit unobstructed expiration while inspiration is impeded more or less, and can be regulated. The effect of the impeded inspiration is naturally a negative pressure in the chest; the inspiratory muscles are brought into strong contraction, inspiration is prolonged and the respiration rate lowered. Blood is consequently sucked from the right heart into the lungs, owing to the prolonged negative pressure, while there is no obstruction in the pulmonary circulation to the influx of blood—and in this is the great difference between the passive congestion of heart disease and the hyperemia induced by the aspiration mask. The apparently well attested fact that passive congestion of the lungs from heart disease is a protection against tuberculosis of the lungs, was the starting point, it is alleged, for Bier's hyperemia treatment of surgical inflammation.]

69. **Fatal Gas Embolism During Artificial Pneumothorax.**—Zink's patient was a woman of 40, healthy until the tuberculous process developed in one lung two years before. Necropsy showed that the nitrogen injected under some pressure must have got into some vessel in the soft parts of the thorax as there were no signs of injury of the lungs nor of a pleural vessel in the region where the nitrogen had been injected. Ten or fifteen seconds elapsed between the withdrawal of the needle and the first sign of embolism in the medulla oblongata; the necropsy findings were negative as is usual in gas embolism. If the patient survives the first collapse, various symptoms show the disturbance in the central nervous system. Generally, severe coma comes on without the slightest preliminaries. Occasionally there may be a brief aura in which the patients complain of headache or vertigo or scream as they collapse. No means of resuscitation prove effectual in these acute cases. With a more protracted course, the most frequent and an almost pathognomonic symptom of nitrogen embolism is the marbling of the skin, mostly on the extremities. In Zink's case this marbling was on the right forearm and around the puncture hole in the thorax. There was considerable fat around the heart, which certainly cooperated in the fatal outcome; after the first threatening symptoms had subsided the general condition seemed relatively good so that recovery was anticipated. Even the next morning the condition did not seem menacing, until afternoon when the heart showed serious disturbance, refractory to all measures, and the patient died at 8 p. m. About 200 c.c. of nitrogen had been injected, the third injection in four days, and the terminal pressure had been plus 12. Zink does not think that anything was omitted which could possibly have saved the patient except that he might have aspirated out the gas when the first symptoms were observed, but he doubts whether it would not even then have been too late.

Berliner klinische Wochenschrifr

January 13, L, No. 2, pp. 49-96

70 Principles of Modern Treatment of Syphilis. A. Neisser.
71 *Intestinal Auto-Intoxication. (Ueber enterogene Intoxikationen, bes. über enterotoxische Polyneuritis.) C. von Noorden.

72 *Paralysis Following Extension for Fracture of the Femur. (Lähmungen bei Extensionbehandlung von Oberschenkelbrüchen.) M. Weichert.
73 *Operative Treatment of Exophthalmic Goiter. (Zur chirurgischen Behandlung des Morbus Basedowii.) A. Schlesinger.
74 Characteristic Behavior of Frog Eye in Serum from Psoriasis Patients. (Das Ehrmann'sche Froschaugenphänomen im Blutserum von Psoriasiskranken.) A. Sommer.
75 *Diabetic Coma. R. Ehrmann. Commenced in No. 1.
76 Instrument to Aid in Suturing Blood-Vessels. (Instrument zur Erleichterung der Gefässnaht nach Carrel.) E. Jeger.

71. Published in full in THE JOURNAL, Jan. 11, 1913, p. 101.

72. **Paralysis After Extension for Fracture of the Femur.**—Weichert reports five cases of paralysis in men from 22 to 55 years old and one boy of 11 after long extension treatment of fracture of the femur; the paralysis did not subside entirely until a full year had elapsed. He ascribes the paralysis to injury of the trunk of the sciatic nerve from too severe and too prolonged stretching with heavy weights. The weights ranged only from 20 to 30 pounds but the limb was raised so that the leg lay on a slanting plane. The hip joint was thus bent, stretching the sciatic nerve further, so that the moderate weight proved too much for the nerve. This assumption as to the cause of the peripheral paralysis has been confirmed by the fact that such disturbances are no longer observed since the technic has been changed so that extension is applied with the thigh parallel to the bed, thus relaxing the sciatic nerve, while the knee is flexed.

73. **Operative Treatment of Exophthalmic Goiter.**—Schlesinger reviews his experiences in twenty cases and states that it has convinced him that the sudden fatalities after operative treatment of exophthalmic goiter are due to absorption of thyroid secretions. By reducing to the minimum the raw surfaces permitting absorption, it may be possible to ward off trouble from this source. He has become convinced also that it is not necessary to do an extensive operation to accomplish the desired result, but he adds that operative treatment has raised a host of new problems which now await solution. It is better, he thinks, to err on the side of operating too soon than too late. Of his twenty patients three were entirely cured, four immeasurably improved and seven much improved. In two cases the affection returned to a slight extent but it yielded then to medical measures. Three patients were in good condition six months after the operation. In another patient the recurring symptoms were accompanied by much enlargement of the remaining lobe.

75. **Diabetic Coma.**—Ehrmann reports extensive experimental research on coma, stating that he found it possible to induce in rabbits a coma resembling so closely diabetic coma in man that a number of new and previously undescribed elements in the clinical picture were discovered. He elicited the coma in the animals by administration of butyric acid (1-beta-oxybutyric acid and aceto-acetic acid). The butyric acid acts as a severe poison for the brain, affecting in particular the respiration center, vasomotor center and the cerebrum. When the butyric acids act predominantly on the vascular system, a cardiovascular form of coma may be induced. The unmistakably favorable action of sodium bicarbonate in coma is due to its effect in stimulating the elimination of the toxic butyric acids through the urine and also to a direct stimulating action on the nerves of the vessels. The alkali is not able to cure existing coma but it has proved its usefulness in aborting it when given early enough. The facts observed explain the origin of diabetic coma and show the importance of recognizing the action of the poisonous fatty acids on the respiration center in the peculiar low and deep breathing. This should warn of impending coma and permit treatment in time. The toxic action on the respiration center gradually extends to the rest of the central nervous system, with actual coma as the result. The assumption that the brain is predominantly affected by the butyric acid salts is sustained by the fact that in the experiments related the dose needed to bring on coma had to be proportional to the weight of the brain rather than to the entire weight. The small amounts of acetone found in the urine of the animals in coma exclude the assumption that accumulation of acetone is responsible for the development of diabetic coma. The accelerating effect of the sodium bicarbonate on the elimination of the butyric acids is paralleled by the remarkably increased and hastened elimination of salicylic acid which it induces in case of intoxication from salicylic acid. The elimination of the salicylic acid is shortened by one-half under sodium bicarbonate, as Ehrmann has previously stated. He recommended then to give the sodium salts in treatment of salicylic acid poisoning. The facts observed here as also in diabetic coma show that neutralization of the acids by the alkali cannot possibly be the cause of the favorable effects observed. When the toxic action of the butyric acids is felt predominantly in the cardiovascular system, sudden death may follow; this was probably the cause of the fatality in the cases recorded in the literature as "collapse" and "sudden heart death" in diabetics. Coma is therefore a consequence of severe diabetes, that is, accumulation of the fatty acids, such as occurs only in severe diabetes. They injure the vascular system and the diabetic may die of collapse of the vascular system—more cases in this category will be found when greater attention is paid to the blood-pressure in diabetics before coma has developed. The increased excretion of beta oxybutyric acid in the urine after administration of large doses of sodium bicarbonate has been confirmed by a number of investigators, and it emphasizes the importance of the sodium bicarbonate in prophylaxis of coma and also in its incipient phases. In the experimental research reported, intravenous injection raised the abnormally low blood-pressure and the animals roused and ran around; evidently the bicarbonate had a direct stimulating action on the vasa vasorum.

Deutsche medizinische Wochenschrift, Berlin

January 9, XXXIX, No. 2, pp. 49-96

77 The Cancer Problem. (Das Krebsproblem.) E. F. Bashford. Commenced in No. 1.
78 *Calcium Metastasis and Calcium Gout. (Kalkmetastase und Kalkgicht.) M. B. Schmidt.
79 *Swimming-Tank Conjunctivitis. (Chlamydozoen-Befunde bei Schwimmbad Conjunctivitis.) Huntemüller and Paderstein.
80 *Typhoid Bacilli Carriers. (Typhusbazillenträger.) H. Conradi.
81 Abnormally High Blood-Pressure and Sugar Content of Blood. (Hypertension und Blutzucker.) F. Port.
82 Influence of Salvarsan on the Ear. (Einfluss des Salvarsans auf das Gehörorgan.) E. Rimini.
83 Serpiginous Vaccinia. (2 Fälle von verspäteter Abheilung der Impfpusteln.) Meder.
84 Non-Gonorrheal Ophthalmia Neonatorum. (Ueber nichtgonorrhoische Ophthalmoblennorrhoen der Neugeborenen und Säuglinge.) C. Credé-Horder.

January 16, No. 3, pp. 97-144

85 *The Analytic Method of Reeducating the Muscles in Tabes. (Die analytische Methode der kompensatorischen Uebungsbehandlung bei der Tabes dorsalis.) O. Foerster. Commenced in No. 1.
86 Circulation of Blood in the Lungs. (Die Blutzirkulation in atmenden und atelektatischen Lungen.) O. Bruns.
87 *Tubercle Bacilli in the Bile and Prophylaxis of Tuberculosis. (Untersuchungen zur Tuberkulosefrage.) L. Rabinowitsch.
88 *Diaphragm-Cardiac Neurosis. (Die sexuelle psychogene Herzneurose—Phrenokardie.) E. Behrenroth.
89 *Early Diagnosis of Perforation of the Stomach. (Zur Frühdiagnose der akuten Magenperforation.) D. Kulenkampff.
90 Improved Technic for Staphylococcus Vaccine Therapy. G. Wolfsohn.
91 Vaccine Therapy of Gonorrhea. (Kausale und symptomatische Behandlung gonorrhoischer Prozesse des Mannes mit bes. Berücksichtigung der Original-Gonokokkenvakzine Menzer.) P. Erlacher.
92 *Perforated Capsule Test for Gastric Acidity. (Feststellung der freien Salzsäure im Mageninhalt ohne Magenschlauch.) H. Opitz.
93 *Whitening of Hair and Beard on Side of Hemiplegia Only. (Hemicanities bei Hemiplegie.) S. Loeb.
94 Prostate Elements in Urethrorrhea. E. Pfister.
95 Latent Erysipelas. A. Schlesinger.
96 *Diphtheria Epidemics in School-Rooms. (Klassenepidemien von Diphtherie.) Gettkant.

78. **Calcification of Tissues.**—Schmidt thinks that the term "calcium gout" might be applied to the case he reports in which a woman of 36 had extensive calcification of numerous organs, not restricted to those which are generally regarded as presenting a physiologic predisposition to calcification, namely the lungs, the gastric muc[illegible]s and preeminently the arteries. It was [illegible] arteries connected with the pancreas and t[illegible] those of the thy[illegible]

and brain not at all. There was also extensive incrustation of the fibers of the myocardium, but there were no signs of disease of the bones. The woman had severe chronic nephritis, and chronic nephritis is almost invariably encountered in cases of this kind, namely, with changes in the calcium metabolism and deposits of calcium at various points. He theorizes to explain the cause for this flooding of the blood with calcium and its deposits in sound tissue, ascribing it mainly to some change in the conditions governing the solubility of the calcium, such as might readily be induced by nephritis or other causes. The local necrosis of tissues observed is probably a consequence rather than the cause of the deposits of calcium. Conditions are thus very similar to those in gout according to the latest conception, namely, that gout is due to a primary disturbance in the metabolism of uric acid with deposits of the salts in sound tissue and secondary necrosis. In the case reported some of the vessels were filled with solid cylinders of calcium, completely closing the lumen.

79. **Swimming-Tank Conjunctivitis.**—The acute conjunctivitis in the fourteen cases described resembled acute trachoma; one eye alone was affected, with two exceptions, and all the patients soon recovered. It proved possible to transmit the conjunctivitis to monkeys. Typical cell inclusions were found, very similar to the chlamydozoa found in trachoma. Most of the patients had always lived in Berlin and the cases were grouped and involved teachers of swimming or members of swimming clubs—all staying unusually long in the water.

80. **Typhoid-Bacillus Carriers.**—Conradi is convinced that endemic typhoid is maintained by the chronic carriers. Even with the intensive measures for stamping out typhoid introduced into southwestern Germany on an extensive scale in the last few years, it has proved impossible to detect all the chronic carriers. Each epidemic, however, was traced to a chronic carrier, and he states that five out of every hundred typhoid patients is left a chronic carrier. Another fact that has been established beyond question is that four times as many women as men become chronic carriers. He thinks that this has some connection with the fact that women are more predisposed to gall-stones than men; possibly the corset and tight clothes interfering with the circulation may explain the prevalence in women. He states that his experimental and clinical research to discover some way of sterilizing the carriers has failed of results. The only thing that can be done is the constant reminding of chronic carriers of the necessity for care and foresight. Measures for disinfection should be advised exactly the same as for typhoid patients. But his eight years of service in fighting contagious diseases has left him with no illusions as to the carrying out of these measures. This much is known, however, he adds, that the causes of endemic typhoid have now been revealed.

85. **Reeducation of the Muscles in Tabes.**—Foerster gives forty-five illustrations to aid in explaining the analytic method of compensatory exercises to restore coordinated muscular action in tabetics. By sifting out the exact muscles involved in each movement and training these in turn it is possible to accomplish wonders in restoring normal movements.

87. **Tubercle Bacilli in the Bile.**—Rabinowitsch expresses surprise that so little attention has been paid to the statement of Fraenkel and Krause over ten years ago that they found tubercle bacilli in the bile in five out of eleven tuberculous cadavers, that is, in 45 per cent. She has recently examined seventeen cadavers, all with more or less advanced tuberculosis except one in which there was only a calcified mesenteric gland. The intestine was involved in eleven cases, including one with a liver process. Inoculation of guinea-pigs with the bile gave positive results in 70 per cent., showing the danger of infection of others from bacilli in the stools as they may come from the bile as well as from swallowed sputum. The bacilli cultivated from the lungs were all of the human type, but those cultivated from the gall-bladder in six cases were of the bovine type in two. She thinks that these findings confirm the assumption of transmutation of one type into another. The tubercle bacilli infecting the body may persist in the original type in one organ while conditions in another organ may modify the type. It seems plausible to assume that bovine infection in children persists in a latent form until the bacilli become modified into the human type—this would explain why the bovine type may be prevalent in children while the human type is almost invariably encountered in adults. The fact that this transmutation outside of the organism has only rarely been observed in experimental research (O. Bang, Eber, Bongert) does not conflict with this assumption. Nature will not let herself be driven. The practical result of the research reported is a warning against the danger of elimination of tubercle bacilli in the feces from the bile, both in human beings and in cattle. A cow reacting to tuberculin without any apparent disease may infect the milk by bacilli in her feces. The importance of examination of the feces for tubercle bacilli in animals is emphasized by Fraser's recent report that he found infection of the bovine type in 60 per cent. of sixty-seven children with surgical tuberculosis at Edinburgh. Orth declares that if every tubercle bacillus of the human type could be annihilated at one stroke, yet all the measures in vogue against tuberculosis would have to be kept up just the same as long as bovine tubercle bacilli can be transmitted from animals to man.

88. **Phrenocardia—a Psychogenic Cardiac Neurosis.**—Behrenroth discusses the syndrome described by Herz in 1909 as a diaphragm-heart neurosis or phrenocardia. The symptoms are pain below the left nipple, difficulty in breathing and palpitation, with other nervous phenomena. The pains may be sharp and transient or may persist as a dull ache with exacerbations. Erb has encountered fifteen patients with the typical syndrome and ten others with a suggestion of it among 450 cases of neurosis, and Behrenroth has observed nineteen among 370 patients with nervous heart disturbances. The patients were mostly between 25 and 30 years old, the syndrome never being observed in the children or elderly. It is described in detail with the various modifications observed. The origin is generally the same in all cases: unsatisfied sexual longings, disappointments of all kinds. In the majority of cases anomalies, rather than excesses, in the sexual sphere are responsible for the phrenocardia, and treatment is effectual if the cause can be done away with in addition to the measures which have proved their usefulness in cardiac neuroses of other kinds. The transient use of bromids, valerian or other sedatives may help.

89. **Early Diagnosis of Perforation of the Stomach.**—Kulenkampff calls attention to tenderness in the pouch of Douglas as a very early sign of perforation of the stomach. The discovery that the Douglas is sensitive to pressure transforms at once a dubious into a certain diagnosis of perforation of the stomach wall. In a case reported the perforation occurred at 5 p. m. and the patient had eaten nothing since breakfast. The acid gastric juice probably has a more irritating action than intestinal contents, which explains the extreme tenderness at the point where the stomach contents flow down and accumulate, namely, in the lower part of the pouch of Douglas. Two other patients with contusion of the abdomen did not have this tenderness in the pouch of Douglas although there was much accumulation of blood. This point is the only one where the peritoneum can be directly palpated without opening the abdomen, and hence the discovery of tenderness here is extremely instructive in case of a dubious diagnosis.

92. **Perforated Capsule for Testing Gastric Acidity.**—Opitz has been much pleased with the accuracy and reliability of the information derived from congo and litmus paper enclosed in an oval rubber capsule about 1.5 cm. long by 0.5 cm. wide, studded with perforations and made in two parts which screw together. A silk thread is fastened to one end of the capsule, and a nickel ring is enclosed with the two scraps of paper to add weight. To prevent any interference from the saliva, the capsule is loosely wrapped in a wafer and is placed far back on the tongue so that it is swallowed at the first movement of deglutition. After a given time it is drawn out by the string, unscrewed, and the change of tint in the test papers compared with a color scale. By this means it is possible to estimate the amount of free hydrochloric acid in the stomach at a

given moment after the test breakfast, although of course this simple method will never take the place of the more accurate determination by means of the stomach tube.

93. **Sudden Whitening of the Hair.**—In the case reported by Loeb a man of 51 became paralyzed on the left side in consequence of a cerebral hemorrhage and was unable to speak for a week. By the end of this time the moustache, eyebrow and hair on this side had turned entirely white while on the other side the normal color had been retained. Berger has reported two similar cases of the hair turning white on the side of the paralysis, and Loeb regards this material as sustaining the assumption that nervous influences alone are able in certain conditions to turn the hair white suddenly.

96. **Diphtheria in the School.**—Gettkant has arranged it so that the medical inspector of the school the child is attending is notified at once when a case of diphtheria in a child is reported. The medical inspector then makes a point of examining smears from the throats of the children who sit near the seat of the one reported sick and those the sick child has been in the habit of playing with most. By this means he has found it possible to discover unsuspected diphtheria-bacillus carriers, and by excluding these alone from the school-room until they were free from bacilli to stamp out an epidemic in its incipiency. If these measures do not prove sufficient, he has smears made from the throats of all the children in the room, but this is rarely necessary. Bacillus carriers are the main source for epidemics of this kind, he has become convinced.

Medizinische Klinik, Berlin

January 12, IX, No. 2, pp. 45-82

97 *Migraine. (Der migranöse Anfall, seine Kennzeichen, seine Ursachen und sein Wesen unter bes. Berücksichtigung der Wechselwirkung zwischen Migräne und Sexualleben.) G. Caesar.
98 Antitoxin Treatment of Diphtheria. (Klinisches und Kritisches zur Behringschen Antitoxinbehandlung der Diphtherie.) F. Reiche. Commenced in No. 1.
99 *Treatment of Neurosis from Fright. (Zur Therapie der Schreckneurose.) J. Faust.
100 Naphthalin Poisoning. (Fall von Naphthalinvergiftung.) L. Heine.
101 Psychology of Animals. (Die neuere Tierpsychologie.) A. Jacobsohn.
102 Urethral Strictures. (Strikturen der Harnröhre.) E. Portner. Commenced in No. 1.

97. **Causes and Treatment of Migraine.**—Caesar presents evidence to sustain the assumption that migraine is the result of the action of some toxin, and that in all probability the toxin is generated in the perverted functioning of some gland with an internal secretion. The facts cited seem to point to the ovaries as the special gland responsible, especially his clinical experience that migraine often returns with a four weeks' rhythm and very often coincides with the menses, and that the women cease to suffer from migraine with the onset of a pregnancy or lactation while the tendency to migraine seems to disappear permanently with the menopause. In his few cases of migraine in men, the tendency likewise disappeared in them at the age corresponding to the climacteric years in women. The practical conclusion follows that suppression of ovarian functioning might relieve the patients permanently of their migraine. He consequently advises sterilization of the woman in distressing and rebellious migraine, especially elderly unmarried women or those who already have several children. Müller has treated in this way with complete success a patient tormented beyond measure by constantly recurring migraine.

99. **Treatment of Traumatic Neurosis.**—Faust uses the term "fright neurosis" as the shock was from fright and there was not much physical injury in the case he reports. The patient was a locomotive engineer whose engine ran down a wagon on account of a misplaced switch. The man became a "nervous wreck," the breathing extremely abnormal, rapid, with "stuttering inspiration" and deep sighs, pulse up to 120, and tremor of hands and feet, among other symptoms of the fright neurosis. Faust instituted a course of inhibiting exercises, as he calls them, training the patient to study his breathing and for five minutes in each hour reduce the number of inspirations to ten in a minute, counting by the second-hand of a watch, forcibly controlling the tendency to sigh and to "stuttering inspiration." The second week the exercises were done for ten minutes each hour, the third, for fifteen minutes, the fourth, the same sitting up, the fifth, the same standing, the sixth week the same while walking slowly, the seventh, while walking fast, then while climbing stairs, then while carrying a small trunk, then while slowly walking on the street, thirty feet, sixty feet, etc. The patient had to be alone for each exercise so that his entire attention could be focused on it. The second set of exercises was to try to see how long he could lie in bed without making the slightest movement, timing it by the clock. At first ten minutes was the limit. The patient was ordered to lie down for two hours each day and go to bed at 8, and he was told to try to lie perfectly still at first each time he lay down. He finally succeeded in doing this for an hour at noon and on retiring. Writing exercises were given on the same principle. In three or four months the patient had recovered from his neurosis so that he could go as guest or stoker on his locomotive and by the end of the sixth month had resumed his old post apparently entirely capable of filling all the duties connected with it and there has been no further disturbance during the six months since. Faust is convinced that the inhibition exercises are responsible in large measure for the favorable outcome in this case, as in treatment of asthma and of tabes on the same principles.

Münchener medizinische Wochenschrift

January 14, LX, No. 2, pp. 57-112

103 *Sources of Permanently High Blood-Pressure. (Quellen dauernder Blutdrucksteigerung.) K. Schlayer.
104 Abnormally Long and Movable Sigmoid Flexure. (Sigma elongatum mobile—Röntgenbefund.) R. Kienböck.
105 *Transmission of Epidemic Poliomyelitis by Fomites and Flies. (Experimentelle Untersuchungen über die Möglichkeit einer Uebertragung der Kinderlähmung durch tote Gegenstände und durch Fliegen.) A. Josefson.
106 No Benefit from Neosalvarsan in Parenchymatous Keratitis; Seven Cases. H. Hoehl.
107 *Injury of Crucial Ligaments of the Knee. (Verletzungen der Ligamenta cruciata des Kniegelenks.) R. Purckhauer.
108 *Rupture of Liver from Contusion: Two Cases. (Subkutane Leberruptur.) Flath.
109 Pathology of Banti's Disease. P. Grosser and G. Schaub.
110 Bicycle Devised for a Stiff Knee. (Radfahren unter aktiver Beteiligung eines Beines mit steifem Kniegelenk.) O. Harmsen.
111 Bone Conduction of Sound with Normal Hearing. (Kritisches zur Verkürzung der Knochenleitung bei normalen Gehör.) H. Herzog. Commenced in No. 1.

103. **Causes of Permanent High Blood-Pressure.**—Schlayer discusses the various theories that have been advanced to explain a persistently abnormally high blood-pressure, and the premises on which they are based. His own theory, for which he presents an array of evidence, is that the arterial system in these cases has been sensitized by some means, rendering it hypersusceptible to epinephrin in the blood and also to any other toxins circulating in the blood. Clinical observation sustains this assumption. It explains further why simple repose is liable to have such a beneficial influence. The source of this sensitization may be in the kidney, but the kidney changes in these cases may be merely a parallel phenomenon. The practical conclusion is that a permanently high blood-pressure, over 160 mm. mercury, should call attention at once to the kidneys.

105. **Transmission of Epidemic Poliomyelitis.**—Josefson reports positive findings confirming the transmission of this disease by handkerchiefs, sewing and other fomites, but he was unable to obtain positive results with flies. His experiments were made with monkeys.

107. **Injury of the Crucial Ligaments of the Knee.**—Pürckhauer reports three cases in which a long time had elapsed after the accident. In the eight other cases on record the interval between the accident and treatment had been very brief. When the crucial ligaments are torn, the tibia can be pushed forward or backward on the end of the femur. This possibility of subdislocating the tibia in respect to the femur may be the only symptom left of the old laceration of the crucial ligaments. Laceration of the lateral ligaments or capsule rapidly heals, while the crucial [illegible] orn apart, never grow

together again spontaneously, or at least never regain their old elasticity. It is important to suture the torn ligaments as soon as possible. In very old cases suture is scarcely advisable. The disturbances in one of his patients were so slight that no treatment was necessary. In another case he corrected conditions to prevent the subdislocation of the tibia, and thus freed the patient from all disturbances.

108. **Rupture of the Liver from Contusion.**—In the first of Flath's two cases the tissues were too friable for suture but the lesion healed promptly under firm tamponing. The necessity for a prompt laparotomy when rigidity of the abdominal wall indicates internal injury, is reiterated anew.

Therapeutische Monatshefte, Berlin

January, XXVII, No. 1, pp. 1-96

112 Treatment of Gonorrhea. (Behandlung der Gonorrhoe und ihrer Komplikationen.) C. Bruck.
113 *Choice of Foods in Disease. (Wahl von Nahrungsstoffen in Krankheiten.) C. von Noorden.
114 *Chronic Tonsillitis. (Radikale Tonsillektomie oder konservative Behandlung der chronischen Tonsillitis?) H. Pässler.
115 Duodenal Sound in Treatment of Pylorospasm. (Zur Behandlung des Pylorospasmus—Pylorussondierung.) H. Putzig.
116 Pulverized Vegetables. (Bedeutung physikalisch fein verteilter Gemüse für die Therapie.) G. v. Bergmann and F. W. Strauch.

113. **Choice of Foods in Disease.**—This article was read in the section for dietetics at the recent International Congress for Hygiene. Von Noorden discussed in particular the diet in obesity, in forced feeding, in gout, diabetes, fever, exophthalmic goiter—classing the two last together—gastro-intestinal morbid conditions and kidney disease. He remarks that sometimes he has found that patients may be able to digest meat or carbohydrates, either alone, but not both together. His clinical observation teaches that in many cases the patients do better with monosaccharids than with disaccharids, such as milk-sugar and cane-sugar. The monosaccharids (glucose, galactose and levulose) are absorbed too rapidly to afford a culture medium for bacteria. It is interesting, he adds, that in the old Mosaic writings it is forbidden to eat meat and milk together. He refers also to a rare affection attendant on chronic constipation: The patients complain of wandering pains in the most diverse nerve regions, and the pains are generally ascribed to rheumatism or gout. More careful investigation will show, however, that it is an elective neuritis, affecting only the sensory nerves, and four or five times the normal proportion of indican is often found in the urine. All attempts to cure the neuritis directly by hot baths, electricity, etc., are bound to fail as they do not attack the cause of the neuritis. This is the influence of poisons generated in the constipated intestines, and a cure promptly follows when the abnormal conditions in the intestines are corrected. This may require some time. Some of his patients were kept for weeks on milk or yoghurt without meat before the bacteria causing the abnormal conditions had died off.

114. **Chronic Tonsillitis.**—Pässler is convinced that chronic tonsillitis is seldom if ever a harmless local affection. It is an important factor not only in articular rheumatism and chorea but in erythema nodosum, dyspeptic conditions, mild sciatica, acute or subacute, recurring nephritis and chronic endocarditis and myocarditis. He urges the necessity for examining for disease in the nose, ears and teeth as possibly involved in the tonsillar process. He removes the tonsils in any of these diseases which drag along or recur. No certain cure can be realized except by radical tonsillectomy.

Wiener klinische Wochenschrift, Vienna

January 10, XXVI, No. 2, pp. 41-88

117 *Etiology of Epidemic Poliomyelitis. (Aetiologie der Kinderlähmung.) C. Kling.
118 Benzol in Treatment of Leukemia and Other Blood Diseases. A. Pappenheim.
119 Skin Reaction in Syphilis. O. Fischer and E. Klausner.
120 Prognosis of Tuberculosis in Infants. R. Lawatschek.
121 Impalement Accidents. (Pfahlungsverletzungen.) F. Orthner.
122 *Embryonal Cells as Cause of Cancer. (Neue Versuche zur Erzeugung von Geschwülsten mittels arteigener und artfremder Embryonalzellen.) G. Kelling. Commenced in No. 1.

January 16, No. 3, pp. 89-124

123 *Dorsal Auscultation of the Heart and Vessels. L. Kürt.
124 Action of Induced Radio-Activity. Fernau, Schramek and Zarzycki.
125 *Injection of Blood in Anemia. (Zur Bekämpfung der Anämien durch intramuskuläre Injektionen von defibriniertem Menschenblut.) J. v. Zubrzycki and R. Wolfsgruber.
126 Twofold Ileus After Herniotomy. (Seltene Komplikation nach der Herniotomie einer eingeklemmten Liestenhernie.) H. Finsterer.
127 Balneotherapy in Kidney Disease. (Zur Balneotherapie von Nierenleiden.) E. Pflanz.
128 No Benefit from Neosalvarsan in Parenchymatous Keratitis; Ten Cases. E. Bachstez.
129 Alcohol and Homosexuality. H. Deutsch.

117. **Epidemic Poliomyelitis.**—Kling reports extensive research on the virus and mode of transmission of infantile spinal paralysis. He found that 78 per cent. of the monkeys contracted the disease after inoculation with water in which organs and mucous membranes from poliomyelitis cadavers had been rinsed. All the animals inoculated with spinal cord died of poliomyelitis. The virus was found constantly in the secretions from the nose and throat and in the intestinal content of acute poliomyelitis patients, also in those with light, abortive cases of the disease and, further, in numbers of healthy contacts. The virus generally soon loses its virulence, so that isolation need not be kept up for more than two weeks although the virus was found in the nasopharynx up to seven months in a few of the cases examined, and also in the abortive cases and healthy contacts. He thinks it probable that each case and each abortive case is surrounded with a number of carriers but serious epidemics do not result as the persons exposed are not susceptible. It seems to be the rule that a region where a disease has once been epidemic, is spared further inroads of the disease later, indicating that a large part of the population had become immunized by having had the disease in an attenuated form. This rule is particularly evident in the large cities where the people are exposed to so many diseases and contract them in a mild, clinically not appreciable, form during the course of a mild epidemic. Then, when the disease returns at some later period in a more malignant form, the populace is protected. In rural districts there is not the same opportunity to acquire immunity; and when an epidemic occurs it befalls large numbers of non-immunes and is liable to run an exceptionally severe course.

122. **Cancer Research with Embryonal Cells.**—THE JOURNAL has summarized a number of Kelling's communications on the possibility of malignant disease being the result of the independent proliferation of some alien embryonal cell lodging in the tissues. With gastro-intestinal cancer the embryonal cells from eggs, helminths, etc., may be involved. His views suggest a rational prophylaxis of cancers, as he explains in detail, by avoiding all natural embryonal cells, raw meat, raw eggs, green vegetables possibly contaminated with helminth ova, and contaminated water. Intestinal parasites should be systematically eradicated and the bites of insects should be guarded against. Another point he emphasizes is that an excess of albumin had better be avoided; especially with gastro-intestinal disease let the intake of fluid albumin be restricted, as the reaction of the embryonal cell to alien albumin seems to be an important factor in the development of cancer.

123. **Dorsal Auscultation of the Heart and Large Vessels.**—Kürt gives minute directions for interpreting the findings, remarking that in normal conditions the heart sounds can be heard at the back almost invariably in children but less constantly in adults. The diastolic murmurs with aortic insufficiency of syphilitic origin are unusually loud and rough. They are heard most pronounced on a level with the first or second spinous process of the thoracic vertebrae.

125. **Intramuscular Injection of Blood to Combat Anemia.**—Esch published in 1911 the successful application of this measure, as mentioned in THE JOURNAL at the time, Nov. 25, 1911, p. 1807. The measure has been applied at Wertheim's clinic at Vienna in six cases and the results are stated here to have been remarkably favorable. All the patients had lost large amounts of blood and the reds had dropped to less than two millions in most. The blood-findings in both the patient and

the donor are tabulated in detail, and show the prompt improvement in the blood count after the injection, while the general health improved to correspond. The connection between the injections and the increase in number of blood-corpuscles was beyond question, but how to explain the benefit is still a problem. Intramuscular injection of defibrinated human blood is stated to be free from all danger. No untoward by-effects were noted in any instance. The absolute harmlessness of the method, its simplicity and painlessness render it superior to intravenous transfusion of blood, which, as every one knows, is neither simple nor harmless. The blood was obtained from puncture of the median vein from robust pregnant women with negative Wassermann. The blood was drawn in an Erlenmeyer jar and shaken up with beads until it was defibrinated and then from 20 to 30 c.c. was injected at once into the patient's buttocks. The injections were repeated as needed, at intervals of three or four days. The blood of both patient and donor was examined anew each time for hemoglobin content and the number of red and white corpuscles. In the first case the patient was a woman of 48 with anemia from hemorrhagic cancer of the uterine cervix. The hemoglobin was 25 per cent., the reds 1,450,000, and the whites 3,000. After five injections of the blood in two weeks the hemoglobin was 35, reds 3,800,000 and whites 5,400 a month later.

Zentralblatt für Chirurgie, Leipsic

January 11, XL, No. 2, pp. 41-80

130 *Condom for Draining Ascites. (Dauerdrainage stagnierender Ascitesergüsse in das subkutane oder retroperitoneale Zellgewebe mit Hilfe von Gummi- oder Fischblasenkondoms.) K. Henschen.
131 Fascia Grafts. (Zur Verwendbarkeit der freien Fascientransplantation.) A. Neudörfer.
132 To Cover Defects in Skull and Dura. (Ersatz von Schädel- und Duradefekten.) V. v. Hacker.
133 Pyelotomy with Incision of Anterior Wall of Kidney Pelvis. v. Illyes.
134 Technic for Removal of Foreign Bodies. R. and F. F. Stoltzenberg.

January 18, No. 3, pp. 81-120

135 Amputation Below the Knee Instead of Exarticulation. (Die osteoplastische epiphysäre Amputatio tibiae sub genu als Ersatz für die Exartikulation im Kniegelenk.) F. Franke.
136 Technic for Appendectomy. (Operative Mobilisierung des Coecum bei der Appendektomie, sowie Ausschaltung des Wurmfortsatzes.) Krüger and F. Neugebauer.
137 Loofa Sponges in Laparotomies. (Verwendung des Luffaschwammes bei der Laparotomie.) A. Thies.

130. **Condom for Drainage of Ascites.**—Henschen discusses the various methods that have been devised for permanently draining the ascitic fluid into the subcutaneous or retroperitoneal cellular tissue, commenting on the drawbacks of each. Then he describes a method he applied recently to a man of 57 in advanced cachexia from cancer of the stomach with profuse effusion in the abdomen, the girth being 90 cm. or very nearly two yards. After tapping the patient and failure of two efforts to provide permanent drainage, Henschen made a tunnel through the abdominal wall, working toward the median line from an incision above the left spine of the ilium. The mouth of an ordinary rubber condom was then sutured to an opening in the peritoneum, the condom drawn out through the tunnel in the abdominal wall and the closed end cut off, leaving it projecting the width of a thumb above the plane of the aponeurosis of the externus. This projecting end was then spread out into a ring and sutured to the aponeurosis of the externus, inside the pocket that had been made in the skin. The lateral-convex skin flap was then replaced and sutured. The immediate result was the development of extensive edema in the region and around to the middle of the back, but the ascites thereafter was kept within bounds and the disturbances on the part of the lungs and heart from the pressure of the fluid in the abdomen subsided entirely. Severe cancer ascites with multiple metastatic nodules thus kept under control by the technic described testifies with exceptional emphasis to the value of the method. There is no reason to doubt that the drainage will persist unimpaired. It is important to choose carefully the point where the drain is to be applied to utilize the physical forces, and Henschen thinks that the most suitable place is the region above Poupart's ligament or as far to the side as possible in one of the lumbar recesses. Another precaution that must be taken is to see that there is no loose omentum that might obstruct the condom drain tube; it may be necessary to suture the omentum out of the way or draw a wisp into a second tunnel made for the purpose. It might be possible to introduce the condom through a lumbar incision and drain the effusion into the retroperitoneal cellular tissue. A rubber or fish-bladder condom can be readily sterilized, the former by boiling and the latter by Hofmeister's method of sterilizing catgut.

Zentralblatt für Gynäkologie, Leipsic

January 11, XXXVII, No. 2, pp. 49-88

138 Time Relations Between Corpus Luteum Production and Menstruation. R. Meyer and C. Ruge.
139 *Correction of Contracted Pelvis. (Verfahren zur Heilung enger Becken.) H. Rotter.

January 18, No. 3, pp. 89-120

140 *Vomiting of Pregnancy. (Zur Hyperemesis gravidarum.) M. Stolz.
141 Chair for Extradural Anesthesia. (Kippstuhl zur Ausführung der hohen extraduralen Anästhesie.) H. Schlimpert.
142 *Improved Technic for Venesection in Eclampsia. (Zur Behandlung der Eklampsie.) M. Zondek.
143 *Climacteric Hemorrhages and Prophylaxis of Cancer. F. Lehmann.

139. **Enlargement of Pelvis by Resection of Promontory.**—Rotter reports that he has applied in a clinical case the method of enlarging a rachitic contracted pelvis by chipping off the anterior part of the promontory, which he has worked out on the cadaver as described in The Journal, May 11, 1912, p. 1487. The patient had passed through eight pregnancies but the child had succumbed during or soon after the difficult delivery each time. The woman was 32, healthy and normal in other respects and very anxious for a living child. Four months after the last delivery the operation was done under chloroform, Trendelenburg position, the incision on the median line extending from the symphysis to the umbilicus. The intestines were pushed upward, the sigmoid flexure to the left. The peritoneum over the promontory was incised for 6 or 7 cm. and the soft parts pushed out of the way. The sacral artery was ligated 2 cm. above the promontory with a Dechamps needle. Then the promontory was resected with a 4 cm. wide, slightly concave and very sharp chisel, with a smaller chisel for the edges. A few strokes of the hammer answered the purpose. The subperitoneal fat tissue was then sutured over the spot with two catgut stitches, then the parietal peritoneum and the abdominal wound. There was no bleeding from bones or soft parts, and the wound rapidly healed so that the patient could get up the tenth day and was free from pain, and there were no disturbances even on bending and stretching the trunk. Seventeen days after the operation, in place of the promontory, could be felt a smooth flat surface. The portion of the promontory removed was part of the lower lumbar vertebra, intervertebral ligament and part of the first sacral vertebra, the whole being about 1.5 cm. thick. By this means the pelvis has been permanently enlarged by ⅝ inch, which no other method to date has been able to accomplish. The question is now whether callus will develop enough to compromise the effect realized; periosteal callus cannot form as the periosteum was removed with the bone, and fat tissue was sutured over the spot, and, on the other hand, as there was no accumulation of blood in the region, no clot was left to feed a callus and attract calcium salts. Consequently, he is theoretically confident there will be no callus production. In future cases he will chisel off a little thicker piece, possibly 2 cm., which will transform the contracted into a normal pelvis. It might be possible to do this simple operation during the first three months of a pregnancy, but he thinks the advantages are all on the side of the prophylactic operation, not waiting for a pregnancy to be under way. The drawback of having performed an unnecessary operation—in case the woman does not become pregnant—is far outweighed by the other advantages of this method. To wait to do the operation until cesarean section becomes necessary is not advisable, as this leaves a far from normal uterus for future pregnancies, but Schmid recently reported a case of this kind.

140. **Uncontrollable Vomiting of Pregnancy.**—Stolz recommends treatment along the lines of Stroganoff's prophylactic treatment of eclampsia, that is, to keep the patient systematically under the influence of narcotics and sedatives until she has been tided past the stage of hypersensitiveness. Stolz keeps the patient in bed, shielding her from every external impression and allowing only cold, easily digested food in small quantities, stimulating diuresis to eliminate the poisons by regular and prolonged saline enemas, and keeping the bowels open. In the first of the two cases reported, he kept the patient, a iv-para of 24, under the influence of opium. A suppository containing 0.03 gm. of opium was introduced into the rectum three times a day, and by the end of eight days the tendency to vomiting had been conquered. The vomiting began at the end of the fourth week of pregnancy and resisted all other measures. In another case the suppositories were used for three weeks, gradually reducing to one at night as the morning vomiting was the last to yield.

142. **Treatment of Eclampsia.**—Zondek describes a method of venesection involving the kidney alone. Stripping off the capsule from a venous congested kidney droplets of blood can be seen oozing from its surface along with droplets of lymph. There is thus a blood-letting and lymph-letting. By twisting the kidney a trifle on its pedicle, the venous hyperemia can be increased. He has experimented only on animals, but he thinks this method of local venesection may possibly be applied in the clinic, especially in the treatment of eclampsia. He suggests further that the benefit which has been reported in a few cases from decapsulation of the kidney in eclampsia may have been due to an unintentional venesection of this nature.

143. **Climacteric Hemorrhage and Prophylaxis of Cancer.**—Lehmann states that when women who come to him with inoperable cancers are asked why they did not apply for medical aid sooner, the response is invariably that they thought the hemorrhages observed were a natural phenomenon of the change of life. He urges that the laity should be taught insistently that the menopause is merely the gradual subsidence of menstrual hemorrhages, the losses of blood grow less and less and occur at longer intervals; any increase in frequency or amount should arouse alarm as a sign of malignant disease.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 12, XXXIV, No. 5, pp. 41-56

144 *Simple Ferment Test of Liver Functioning. (Nuovo procedimento per la diagnostica funzionale del fegato.) G. Ghedini.

January 14, No. 6. pp. 57-64

145 Hysteric Joint Affection Simulating Chronic Arthrosynovitis. G. De Lucchi.

144. **Polarimeter Test of Liver Functioning.**—Ghedini gives a description of the dozen different methods in vogue for functional diagnosis of the liver, and comments on the drawbacks of each and the necessity for some more reliable technic. He then calls attention to a polarimetric test which shows the presence in the blood-serum of the ferment which is the product of the living liver cell. This ferment is able to reduce glycogen into maltose, isomaltose, glucose, etc. The presence of this ferment in the blood-serum of animals has long been known and in man it has been found in both blood and urine except when elimination by the kidneys is impeded. Ghedini has been investigating its presence by the polarimetric method and found it invariably present in comparatively large amounts in persons with sound livers while it was scanty or absent altogether in those with liver disease. He adds 2 c.c. of blood-serum to a vessel containing 10 c.c. of a 1.5 per cent. solution of glycogen. The turbid fluid is rendered limpid by addition of a couple of drops of a solution of sodium hydroxid. After standing half an hour at 37 C., he adds twice the volume of potassium sulphocyanid and shakes until the salt is entirely dissolved. This salt has the property of clearing up mixtures of serum and other organic products (Porges and Neubauer, Ghedini) in combination with glycogen without affecting the rotation of the plane of polarized light. The deflection of the polarized light is then compared with that with a test mixture of the glycogen solution and physiologic serum. If the polarized light is deflected less than with the physiologic serum mixture the conclusion is evident that part of the glycogen has been reduced to glucose, and the proportion corresponds to the extent of the rotation of the plane of polarized light. He summarizes the findings of this test in nineteen persons with various forms of liver disease of different grades of severity. Parallel tests with other methods confirmed the findings, and he thinks this simple method has a future as a reliable and delicate means of determining both qualitatively and quantitatively the functional capacity of the liver. The test is applied to the blood, which is less subject to secondary influences from other organs than other media, while the technic is free from certain factors which detract from the reliability of other methods.

Medicina Contemporanea, Lisbon

January 5, XXXI, No. 1, pp. 1-8

146 Pleurisy. (Sobre pleurisias.) B. Moraes.

147 Massage in Gynecology. (A kinesotherapia em gynecologia.) P. de Miranda.

Hospitalstidende, Copenhagen

January 8, LVI, No. 2, pp. 25-48

148 Solubility of Uric Acid in Connection with Proportion of Ethereal Sulphates in the Urine. (Urinsyrens Dannelse hos Mennesket.) I. P. Chrom.

January 15, No. 3, pp. 49-72

149 Laminectomy for Fracture of Vertebra, with Necropsy. (Et Tilfælde af Fractura vertebræ cervicalis V, behandlet med Laminectomi.) S. and J. Nordentoft.

Ugeskrift for Læger, Copenhagen

January 16, LXXV, No. 3, pp. 83-140

150 *Chronic Gastric Ulcer Near the Pylorus. (Det kroniske juxtapyloriske Mavesaar.) K. Faber.

150. **Chronic Ulcer Near the Pylorus.**—Faber expatiates on the recurring attacks of spasm of the pylorus which are characteristic of ulceration in either the stomach or duodenum when it is close to the pylorus. When this recurring spasm of the pylorus is observed during or notwithstanding correct medical treatment, he advocates an operation without further delay. A gastro-enterostomy does away at one stroke with the irritation of the ulcer by the passage of food over it, and the patients are relieved from all disturbances from this source although they must regulate their life afterward to correspond to this anomaly and certain persons, especially those inclined to nervousness, may have more or less trouble from it. The hope of a cure of the chronic ulcer by medical measures alone should not be abandoned until after several energetic and persevering courses of medical treatment. He has witnessed remarkable cures by this means, even with a juxtapyloric ulcer. But when all this fails, a gastro-enterostomy may transform conditions as if by magic. Pain and nausea soon after a meal are not always a sign of ulcer; they may be of purely functional origin. But pain developing an hour after the meal is more characteristic. The pain coming on several hours after a meal and relieved by taking food, the so-called hunger pain, is regarded by many as characteristic for duodenal ulcer alone, but in Faber's experience this accompanied ulceration in the stomach itself as often as in the duodenum. Free hydrochloric acid does not become evident until after several hours, and thus its corroding action is not felt until then. In one case described in detail the patient was a woman of 31 with dyspeptic disturbances for eighteen years and signs of an ulcer during the last five, with hematemesis, indicating that the ulcer was probably in the stomach. She never had any pain during or after eating until four or five hours had elapsed. While she was under treatment she had two pronounced attacks of severe spasm of the pylorus with great retention, vomiting and hypersecretion—a typical example of Soupault's "pyloric syndrome" in its most pronounced form, what used to be called Reichmann's disease. In a second similar case the symptoms were practically the same except that the patient had had melena twice. Both patients were freed from their chronic trouble by a posterior gastro-enterostomy with complete success during the several months since.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. LX, NO. 9 CHICAGO, ILLINOIS MARCH 1, 1913

THE METHODS OF APPOINTING HOSPITAL INTERNS *

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The many great improvements which have been brought about in recent years in matters of medical education have had to do on the one hand with the preliminary education of the individual, and on the other with the equipment of the schools; that is, their laboratory facilities, clinical material and number of instructors engaged exclusively in teaching and investigation. In regard to these important and fundamental matters definite standards have been established by the better schools, which, as soon as they are widely adopted, will give to medical education a substantial substructure. In order, however, that progress may continue, it is necessary to scrutinize carefully every stage of that training for practice which begins several years before entering a medical school, and ends, not with the conferring of the degree, but, subject to license by the state, with the actual introduction to the responsibilities of practice. A medical school has perhaps accomplished its duty when it confers on students with proper preliminary training a degree which it conscientiously believes to represent the best that can be offered in the way of laboratory and clinical instruction. It may still have many minor problems to settle, as methods of instruction, the relation of research to teaching, the distribution of time between major and minor subjects, and relative value of elective and obligatory work; but the subject now important above all others is that of postgraduate clinical training as a requisite for license. This is indicated in the present general discussion concerning the fifth or hospital year, a discussion originating with the more advanced advocates of medical reform, but now involving to a considerable extent the general public, which is beginning to appreciate that license to practice medicine does not always indicate adequate training for its proper practice, and finally is becoming a matter of serious discussion by state licensing boards. Already Minnesota anticipates the requirement of a fifth year, and Pennsylvania is preparing for the same requirement; other of the more progressive states will doubtless soon follow this lead.

The medical schools must therefore immediately prepare to answer the question shortly to be asked by their students: Where am I to get this fifth year? For the schools with higher requirements and well-organized laboratory and clinical instruction it is not a serious question, for from 80 to 90 per cent. of the graduates of such schools now seek and receive appointments as interns. But something must be done for the remaining 10 to 20 per cent. Many questions arise: Is it possible to substitute for internship a year of concentrated clinical instruction, with of course abundant ward work, in hospitals controlled by the clinical teachers of the school? Will courses in the well-recognized postgraduate schools and hospitals suffice? Are all hospitals to have equal rank before the state board? May a year's work in research or routine work in any one or several of the medical sciences in hospital or school laboratories be substituted for clinical work as intern? For such schools as are located in states looking forward to the hospital year the solution of these questions is an urgent matter; these schools must be prepared, provisionally at least, to meet the changed conditions. The licensing boards cannot expect the schools to find hospital appointments for all their graduates; neither can the state assume this function; but the schools should be prepared to advise their graduates, and the state should clearly define the restrictions as to character of hospital or other work demanded under a fifth-year rule. Doubtless an amicable understanding between schools and state boards will eventually be reached; but much investigation and discussion must precede such understanding. If the medical schools are to aid their graduates in procuring a year of hospital experience it is evident that a large amount of information concerning hospitals must be brought together and made readily available. The number of hospitals available for such postgraduate work, the number of internships in each, the methods of appointment, the character of the service and of the visiting staff in each hospital, the matter of general equipment, the laboratory facilities, the question of whether teaching and investigation are combined with hospital routine and whether or not interns are given work to do which tends to their instruction and proper training or are used as substitutes for nurses and orderlies—all these questions must be answered. It is only one of these questions, though perhaps in many ways the most important, certainly at present the most urgent, that I wish to discuss—the methods of appointing interns.

My interest in the subject, obviously foreign to my usual interests, was first aroused some years ago by a casual discussion among teachers representing several schools in the same city of the results of an examination for interns at a certain hospital. The representative of a school which, though emphasizing practical clinical and laboratory instruction, had not been conspicuously successful in having its students selected, made the statement, "Oh, well, the trouble is that our men are not properly quizzed!" As the hospital in question is one of the best in the community [illegible] ted [illegible] theory that "quizzing" is an import [illegible]

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medical education, and expressed my surprise that despite the most thorough theoretical training of their opponents, men with practical laboratory and clinical training should not have made an impression on the examiners. My surprise was increased when I was told that the hospital in question, despite its standing in the community, did not require practical examination of applicants for internship, and furthermore paid little attention to the personality or the character of the academic or professional education of the prospective intern. The test was purely a theoretical oral examination with the examination of one specimen of urine, blood, sputum or whatever other material might conveniently be viewed through a microscope.

As it appeared to me that with such an examination the student was approaching the hospital with the wrong point of view, and moreover that both school and hospital were neglecting a factor which might be used to impress on the student proper ideals in regard not only to methods of medical education but also to the ultimate object of such education, I undertook in view of the near approach of the obligatory hospital year an investigation of the methods of appointing interns in a large number of the hospitals.

I desire to present the results of this investigation in order, first, that the data may be thus made available to those interested in the purely practical side of the subject in its relation to medical education; and second, as material which may be used in bringing about that greater cooperation between medical schools and hospitals which is necessary to the proper fulfilment of the ideal of the hospital year.

Forty hospitals[1] in the United States and Canada were selected as probably representative of different methods of intern appointment. These included the larger municipal hospitals requiring civil service or other examination, university hospitals which select interns on the basis of scholarship, and representative hospitals of large cities and of small communities, with and without medical schools in their immediate vicinity, appointing interns with and without examinations. Also a research hospital, a hospital controlled by a great corporation, a private hospital and a hospital noted for its special work in surgery were included. Replies were received from all but one,[2] and all these replies gave permission to use the information in this report. On the information so obtained the present study is based.

The letter[3] of inquiry follows:

> I am interested in obtaining information concerning the character of the examinations for interns in the various important hospitals of this country and Canada; or, in the case of those hospitals which do not require examination, of the factors which determine the selection of interns.
>
> If you have at hand printed matter concerning conditions which must be fulfilled by candidates, will you kindly send me such, and also if possible copies of examination papers, and of clinical and laboratory tests, etc., given in any examination held during the past three years. I am especially desirous of knowing how much weight, on the basis of 100 points is given to (*a*) personality, (*b*) character of academic and professional education, (*c*) theoretical examination, either written or oral, and (*d*) practical (clinical and laboratory) examinations.
>
> Are appointments in your hospital influenced in any way by local or neighboring medical schools, or by other factors, social, political or religious?
>
> As a result of your experience have you any suggestions concerning improvements in the manner of selecting interns?
>
> I enclose addressed stamped envelope for reply, which reply, I trust, will not cause you too much trouble.

The various hospitals fall naturally into two groups, those requiring an examination and those appointing in other ways. The latter will be discussed first.

I. APPOINTMENT, WITHOUT EXAMINATION, TO UNIVERSITY HOSPITALS, OR HOSPITALS AFFILIATED WITH OR CONTROLLED BY MEDICAL SCHOOLS

Under this head come university hospitals proper (Pennsylvania, Michigan, Johns Hopkins), and hospitals which are an integral part of independent medical schools (Jefferson and Medico-Chirurgical of Philadelphia) and hospitals affiliated with or closely controlled by medical schools, as the Maine General Hospital supplied by the Medical School of Maine, the City and County Hospital of San Francisco by the medical schools[4] of San Francisco; the Presbyterian Hospital of Chicago by Rush Medical College; the Toronto General Hospital by the University of Toronto, and the New Haven Hospital by Yale University. The method of selection varies somewhat in its details, but is essentially the same in all these hospitals. The University of Pennsylvania Hospital selects its interns from the group of twenty-five men having the highest standing as determined by the examinations of the first three years of the medical course in its own school. Johns Hopkins selects, in January, twelve men of the class graduating in June, on the basis of "standing in all required subjects, on evidence of special ability as shown by elective or research work and on consideration of special fitness." At Michigan the interns "are usually selected from the senior medical students after the class graduates." Jefferson receives the applications of those members of the graduating class who at the end of the third year had attained an average of 80 per cent. or more for all examinations of the course, and in the final selection is guided by personality, preliminary education and by the results of an oral examination and a test of ability in history-taking. At the Presbyterian Hospital of Chicago "the highest 50 per cent. of the class (Rush Medical College) in rank according to scholarship" are eligible for appointment. From those eligible each member of the staff selects one or more interns for vacancies in his department. The names thus selected after approval by the staff are certified to the board of managers of the hospital. The Toronto General Hospital "is to all intents and purposes a university hospital," and appointments are recommended by the advisory board of the hospital composed of members of the faculty of the University of Toronto; preference is given to men having the highest standing in the class. A similar relation exists between the Maine General Hospital and the Medical School of Maine.

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[1] The Lakeside Hospital and the City Hospital of Cleveland; the Johns Hopkins Hospital, Baltimore; the Cook County Hospital, the Presbyterian Hospital, the Augustana Hospital, the Michael Reese Hospital and St. Luke's Hospital of Chicago; the University Hospital, Ann Arbor, Mich.; St. Mary's Hospital of Rochester, Minn.; the Hospital of the Rockefeller Institute, the New York Hospital, Mount Sinai Hospital, Roosevelt Hospital, St. Luke's Hospital, the Presbyterian Hospital, the City Hospital and Bellevue Hospital of New York; the Pennsylvania Hospital, Jefferson Hospital, the Medico-Chirurgical Hospital, the Hospital of the University of Pennsylvania, Philadelphia General Hospital, Presbyterian Hospital and Episcopal Hospital of Philadelphia; the Cincinnati Hospital of Cincinnati; the Grant Hospital of Columbus, Ohio; the Southern Pacific Company's Hospital and the City and County Hospital, San Francisco; the Montreal General Hospital and the Royal Victoria Hospital of Montreal; the Toronto General Hospital of Toronto; the Massachusetts General Hospital, the Boston City Hospital and the Carney Hospital of Boston; the Rhode Island General Hospital of Providence, R. I.; the Maine General Hospital of Portland, Me.; the New Haven Hospital of New Haven, Conn.; the Albany Hospital of Albany, N. Y., and the Buffalo General Hospital of Buffalo.

[2] The only hospital not replying was the Royal Victoria Hospital of Montreal.

[3] This letter was sent out in the early summer of 1911.

[4] University of California, Leland Stanford University (Cooper), College of Physicians and Surgeons, Hahnemann Medical College of Pacific and San Francisco Polyclinic.

The Medico-Chirurgical College of Philadelphia holds an examination, open only to its own students; but the examining committee is "influenced as much by the appearance, alertness and personality of the candidate, as by the answers given." The New Haven Hospital receives applications from members of the senior class of the Yale Medical School, and from this list the committee on interns makes its selection. When such applications are insufficient, appointments are made of men suitably recommended by other schools. Appointments to the San Francisco City and County Hospital are made by the Board of Health on the basis of recommendations by the various schools of the city; these recommendations are presumably on the basis of scholarship. At Cooper Medical College, for example, it has been customary to give the opportunity to apply for these positions to men having the highest examination averages in the undergraduate course.

It is of interest to note that with the exception of the New Haven Hospital, which cannot obtain a sufficient number of interns from the Yale Medical School, and the City and County Hospital of San Francisco, which divides its vacancies among all the schools of the city, each of these hospitals always receives its interns from one school[5] and with the exception of Johns Hopkins Hospital makes no provision for obtaining men of diverse training. The Hopkins provision for obtaining new blood is instructive. On each service Hopkins leaves one appointment vacant, the appointee to be "selected by the responsible head of the service from graduates of this or other schools." This leaves an appointment open, in the words of a correspondent, "for some man recommended by some other school, as we do not believe in too much inbreeding."

II. NON-UNIVERSITY AND NON-AFFILIATED HOSPITALS NOT REQUIRING EXAMINATION

This group includes hospitals of widely varying character; as:

1. Research hospital, as the Hospital of the Rockefeller Institute for Medical Research.
2. Hospital of commercial company, as the Hospital of the Southern Pacific Company, San Francisco, which maintains a magnificent institution for the care of its employees who are sick or injured.
3. Private or semi-private hospitals, as the Grant Hospital of Columbus, Ohio, and St. Mary's Hospital of Rochester, Minn.
4. Charitable hospitals, as the Pennsylvania Hospital of Philadelphia and the St. Luke's Hospital and the Augustana Hospital of Chicago.

The Rockefeller Hospital makes appointments "solely on the basis of (*a*) personality, (*b*) character of education and training, (*c*) nature of hospital work and laboratory training since graduation, (*d*) personal recommendations of those with whom candidates have worked, and (*e*) nature of publications." It is obligatory that candidate should have had previous hospital experience, and preference is given to those who have had special training in some field of medical investigation.

The other hospitals of this group usually appoint after personal interview, or on the recommendation of the faculty of the school in which applicant has studied or of individuals with whom he has been associated. None appears to have a probationary or extern service except the Augustana Hospital, which appoints for a period of three months externs from any school in good standing, and from this group selects its interns. The interns of the Rockefeller Hospital are salaried, as are also, I believe, those of the Hospital of the Southern Pacific Company.

III. HOSPITALS REQUIRING EXAMINATIONS

About one-half of the total number of hospitals[6] to which inquiries were sent make appointments by examination. Of these, three demand a written examination only, three an oral examination only, four a combined written and oral without practical work, while the others (ten) combine with either a written or an oral examination, or both, the examination of patients and the performance of clinical laboratory tests. Thus but one-half recognize the importance of practical examinations, and in some of these practical work counts very little in the final result. Although many hospitals state that personality and character of academic and professional education are considered in selecting interns, others state quite frankly that these factors are not considered and that choice is made purely on the basis of the competitive written examination. In the few instances in which figures have been given the value allotted to personality and general education varies from 10 to 50 points in a total of 100. Several provide specifically that married interns are not eligible, and one at least reserves the right to make, at discretion of its committee, a physical examination of any applicant.

Two hospitals of the group studied require a civil service examination. As these, the Philadelphia General Hospital (known locally as Blockley Hospital) and the Cook County Hospital of Chicago, are representative of our large municipal hospitals which offer many opportunities for postgraduate clinical study and are therefore important factors in the plans for the "hospital year," they may be considered separately.

The Cook County service is limited to the "graduate classes of the various medical colleges in Cook County," and no attention is paid to personality, or to clinical or laboratory tests. The examination covers three days, each applicant answering a set of ten questions on each day. One set of physicians, appointed by the Civil Service Commission, prepares the questions (general medicine and surgery, obstetrics, orthopedic surgery and diseases of eye, ear, nose and throat), and another set examines the papers.

Of the questions offered in the examination of April, 1911, ten can be grouped under the general headings of internal medicine. Of these, six asked for symptomatology or differential diagnosis, and the ground could readily have been covered in a more thorough manner by a practical examination compelling the employment of the usual methods of clinical and laboratory examination with occasional oral questions.

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[5] In this connection it may be mentioned that certain other hospitals, though requiring examinations, are in large part supplied by a single school or a group of schools. Thus, in Chicago the Cook County Hospital service is limited to graduates of schools in Cook County and the Michael Reese Hospital of Chicago takes its interns only "from the three medical schools of merit" in Chicago; but both require examinations. The third division of Bellevue Hospital, New York, is supplied exclusively by graduates of New York University and Bellevue Hospital Medical School. The first division is controlled by the College of Physicians and the second by the Cornell Medical School, but both these, as also the fourth division, which is not under collegiate control, are open to graduates of any school. Appointment to all four divisions is, however, based on examination

[6] The Presbyterian, Roosevelt, St. Luke's and New York (including Hudson Street Hospital), Mount Sinai and Bellevue of New York; the Philadelphia General, Episcopal and Presbyterian of Philadelphia; the Cook County and Michael Reese of Chicago; the Massachusetts General, Boston City, and Carney of Boston; the Lakeside and Cleveland City of Cleveland; the Rhode Island of Providence; the Montreal General, the Buffalo General, the Albany Hospital and Cincinnati City Ho

The ten questions in surgery are quite typical of the usual hospital examination. Instead of attempting to obtain information concerning the applicant's knowledge of surgical diagnosis, surgical cleanliness and the care of the patient before and after operation—matters with which the intern has most to do and concerning his knowledge of which the visiting staff and the hospital trustees should be most solicitous—the questions deal mainly with pathology. I have no desire to minimize the importance of pathology for the surgeon, but in an examination in surgery one expects to see some attempt to find out how much the student knows about the practical problems and procedures of surgery. An attempt should be made to find out what the candidate can do in methods of diagnosis, not how much theoretical knowledge he may have. If hospitals desire the best type of intern, they must support the practical laboratory and clinical teaching of the better schools by offering their applicants for internship the stimulus of practical examination.

At the Philadelphia General Hospital the written questions "form the only subject of the examination, there being no other taken into consideration." The names of individuals passing the examination are published by the Civil Service Commission, and when the director of the Department of Public Health and Charities desires to fill vacancies in the hospital, he makes a requisition on the commission for an appropriate number of names to fill such vacancies. The examination in April, 1911, consisted of ten questions; five involved differential diagnosis, and of these, four could have been used also in a test of laboratory methods. Of the remaining five questions, two, most excellent questions, could readily find a place in a practical examination. The other three, referring to technic of gastro-enterostomy, curettement and the management of normal labor, come under the head of stock questions, which, as they are always expected and prepared for, are of no value in determining past training or fitness for appointment. Such an examination, incapable as it is of determining anything except the extent and thoroughness of the applicant's reading, is open to the same criticism as that of the Cook County Hospital.

In other hospitals which do not attempt a practical examination, the tests for fitness do not differ from those described as typical of civil service examinations. On the other hand, several hospitals make the written or oral examination a means of registering the applicant's knowledge of history-taking, physical examination and clinical laboratory methods. A written or oral report on such practical work as the applicant does is supplemented by questions concerning anatomy, physiology, pathology and treatment. This form of examination cannot be commended too highly.

It is not desirable to single out any one hospital as having a perfect method of appointing interns (indeed, this is impossible, for with the exception of the Rockefeller Hospital, which appoints for definite postinternship clinical research, no institution appears to possess a method entirely satisfactory), but the machinery of the "Joint Hospital Examining Board," which examines for appointment to several of the New York hospitals (New York Hospital including Hudson Street Hospital, Presbyterian Hospital,[7] Roosevelt Hospital and St. Luke's Hospital), is perhaps, at present, the most satisfactory among hospitals appointing by examination. The all-embracing character of this examination and the machinery for weeding out undesirable candidates is indicated in the following extract from the board's circular of information. According to this method, the oral examination (including personality) counts 40, the written examination 60, and the practical examination 50 points in a total of 150.

CIRCULAR[8] OF INFORMATION OF THE JOINT HOSPITAL EXAMINING BOARD OF THE NEW YORK HOSPITAL (AND HUDSON STREET HOSPITAL), PRESBYTERIAN HOSPITAL, ROOSEVELT HOSPITAL, ST. LUKE'S HOSPITAL (READ CAREFULLY AND PRESERVE FOR FUTURE REFERENCE)

I. A competitive examination of candidates for positions on the house staffs of the above-named hospitals will be held in New York City, February 20, 21 and 22. Candidates will meet at the Academy of Medicine, 17 West Forty-Third Street, on February 20 at 9 a. m. for the oral and written examinations. Details of practical examinations will then be announced.

II. The examination will include:

1. A written examination in the subjects of medicine, surgery, therapeutics, surgical and topographic anatomy, pathology and gynecology.
2. An oral examination in medicine and surgery.
3. A practical examination in medicine, surgery and clinical pathology.

III. The successful candidates, in the order of their rating in the examination, will be allowed to make their choice of hospital and service. Those candidates who receive low marks in the written and oral examinations may be eliminated from further competition.

IV. Eligibility. The examining board reserves, and will exercise, the right to reject the applications of

1. Such candidates as may seem, after investigation of their records, not to possess the requisite qualifications, either professional or personal.
2. Those whose physical condition is deemed not satisfactory.
3. Those who are not approved by the governing boards of at least two of the hospitals.

The governing boards of the several hospitals reserve the right to pass on the eligibility of each applicant.

If a candidate is declared ineligible by any one hospital he is notified that he may enter the examination, but may not include that institution in the list of choices.

A candidate declared ineligible by three of the hospitals will not be permitted to take the examination.

Applicants who are married, if eligible in all other respects, will be admitted to the examination on the understanding that, if successful, their choice is limited to the services of the New York and Hudson Street hospitals and Roosevelt Hospital.

Candidates will be notified whether or not they are accepted as eligible to enter the examination not less than ten days before the date of the examination.

V. Applicants must present themselves for a personal interview with the examining board if requested to do so.

It is of interest that nearly all the correspondents[9] who replied to that part of the letter asking for suggestions as to improvements in the appointment of interns expressed themselves as satisfied with the methods of their respective hospitals. The joint board examination in New York is said to be "very advantageous to students and the best hospitals," but a big task for a voluntary board. Several correspondents, while stating their satisfaction with the method they practice, or merely saying that it works well, admit that they have no suggestions to make, as they are not familiar with the methods of other hospitals.

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[7] Since the affiliation of the Presbyterian Hospital with the College of Physicians and Surgeons its internships have been limited to the graduates of the latter school.

[8] For examination held in 1911.

[9] Superintendents of hospitals, the chairman or other member of executive or examining committees and the deans of schools.

Information of another character, which is quite typical of views held by many in regard to hospital examinations, was offered by one correspondent:

> I remember very many years ago, in ...... I was an applicant for internship at .... It had been announced formally that interns would be elected in accordance with their examination grades, the examinations being conducted by members of the staff, and covering two days, the first day written, the second oral. (The examination, I suppose, was fairly conducted, though there was a persistent rumor that two of the ...... men, who were office students of a member of the staff, had the examination questions in their possession a day or two before the examinations were held.) When the grades were announced I had the satisfaction of finding that I stood first from ......, but third on the list, as the two suspected applicants stood respectively first and second. My examination having been thus satisfactory, I started out to interview the trustees, but finally one of them was candid enough to tell me that I might just as well save shoe-leather, as the appointments had *all been "fixed" and that they would pay no attention to the* examination grades. This I found was a fact, and that the very tail-ender of some sixty or seventy applicants, a ...... man, was one of the elect. He happened to have an uncle who was editor of one of the leading daily papers.

This was many years ago, and such methods have doubtless disappeared, but the general impression is to the contrary. If appointment is purely elective, "pull" of all kinds is legitimate and to be expected; but when appointment is preceded by competitive examination, but obtained through influence, the examination becomes a farce and the hospital suffers, as good men naturally do not apply for appointment to such hospitals.

Adverse criticism of prevailing methods has been offered in only two or three instances. The dean of a school closely connected with a large hospital, and for years familiar with the problems of intern appointment, states emphatically that he considers the theoretical examination, even when combined with practical tests, an unsafe guide in that it is almost always used as the first step in the "weeding-out" process, and thus "quiz-crammed" men have the advantage, and the men with a maximum knowledge of practical clinical and laboratory work do not reach the stage of the examination where they may show their worth. He therefore prefers the practical examination alone.

A secretary of an examining committee of a nonteaching hospital, though himself a teaching clinician in another hospital, expresses entire disapproval of the competitive system by oral or written examination which disregards personality, previous academic and professional training and practical knowledge.

A hospital superintendent suggests that all applicants for internship should visit the hospital for a few days in order that during this time "the authorities might become more intimately acquainted with them." Another suggests that the colleges send to the hospitals a number of their best men, as determined by the four years' college work, and let the hospital select, without examination, the number of men they need.

Most of the comments are written from the point of view of the hospital, as "we feel that if we can get the right kind of man we can develop him into a good intern." On the other hand, one of the wisest and most progressive of our hospital superintendents appears to have given the subject enough thought to grasp the real importance of the problem, the influence on medical education. In a lengthy discussion, he begins, "An experience of some years has taught us that the matter of selecting interns is about the worst that could be conceived," and ends, "I have tried to be explicit about the matter because it is an important problem of hospital administration and, to my mind, one of still greater importance to the medical schools of the country."

And this is the crux of the whole question: Naturally the hospitals want good interns, and the medical schools want their men placed in good hospitals—both purely selfish desires. But both ignore the possibilities of the method of intern appointment as an incentive to the improvement of educational methods in medicine and a means of turning the student's attention to the practical side of his education.

Various influences outside the medical faculty and independent of it have brought about most important changes in medical education. So the hospitals, by establishing practical knowledge as a basis for admission to internship, could influence powerfully the trend of *medical education toward a further development of* practical clinical and laboratory instruction, and in the end the hospital will gain also, for it would thus secure for its service men who are better trained and more efficient.

If the hospital year becomes generally established, school and hospital will meet on common ground and with mutual interests. It is for the purpose of aiding in the solution of the difficulties which may then arise that this brief study of the intern question is presented in the hope that early discussion may lead to provisional plans for adjustment to new conditions.

NEPHROPTOSIS AND NEPHROPEXY

WITH SPECIAL REFERENCE TO THE BASKET-HANDLE OPERATION

AXEL WERELIUS, M.D.
CHICAGO

In Mesue's[1] work, published in Venice, 1568, appears probably the first description of a movable kidney, and a century later Riolan[2] described nephroptosis as a symptom-producing lesion. Since then an enormous amount of literature has accumulated on the subject, a great deal of which has probably somewhat overestimated the importance of the condition. The object of this paper is to touch briefly on the various factors concerned in kidney-ptosis, and to report the results of the basket-handle operation.

ETIOLOGY

Among the first causes should be considered the fact that the kidneys are normally slightly mobile, whence, of course, their liability to greater and abnormal mobility.

The various features to be considered are:

Age: Cases occur mostly between the ages of 20 and 50. In children under 10, Schutze reports eight cases up to 1888.

Sex: The incidence is mostly in females (Glénard[3]).

Heredity: Guterlach and Ewald strongly emphasize a congenital disposition to this condition.

Rapid Emaciation: Causing disappearance of the perirenal fat.

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[1] Mesue: Medici Clarissimi Opera, a Joanne Costa Medico Laudensi nunc recognita, Venice, 1568, p. 112 of chapter "De Aegritudinib., Renum et Vasicae; De dislocatione Renum et Vesicae."

[2] Riolan: Manuel anatomique et pathologique, Lyons, 1682, p. 228.

[3] Glénard, Frantz: Les ptoses viscérales, Paris, 1899, p. 307.

Abnormal Laxity of Abdominal Muscles: As in Glénard's disease, a condition often accompanied by prolapsed kidneys.

Tight Lacing.

Pregnancy: This is an important factor, kidney-ptosis occurring much more often in multiparae than in other women (60 in 100 Glénard); other conditions in which there is sudden decrease of intra-abdominal tension might cause kidney prolapse.

Right Kidney: This is by far the one mostly affected; then both, and lastly the left.

Trauma: This might occasionally dislodge the kidney.

Tumor of Kidney: This by increasing the weight of the organ might cause its descent.

Conformation of Body: This was studied and reported on in a splendid paper by Harris,[4] who strongly emphasizes its importance.

PATHOLOGIC ANATOMY

Rayer[5] gave the first detailed account of the pathology of a movable kidney.

There are two forms of abnormal mobility, the congenital and the acquired. The former is said to be always intraperitoneal and is held to the back by a mesentery (mesonephron). From its attachment, it may be swung into almost any part of the abdominal cavity, depending on the length of its mesonephron. It may be fixed by adhesions.

Glénard describes three degrees of prolapse: In the first degree, the superior pole is situated just opposite the costal margin; in the next, somewhat below; and in the third, the kidney is found at some distance within the abdominal cavity. Often the gland is rotated on its transverse axis, as a rule, in a position of anteversion. It may be altered in shape.

I have seen the poles approximated as in a horseshoe-kidney. In some I found the kidney very much lobulated. The reason for this must be that in these cases the capsule was continuous with or connected with strong septa running into the organ. When such an organ becomes congested, the associated swelling of the gland would be limited to the parts of the capsule between the septal attachments, thus producing the rounded elevations.

The prolapsed gland may be normal in size, larger, or even smaller than normal. The hydronephrotic organ may be of enormous size.

The kidney may be normal in color—dull red or purplish in its entirety, in spots or in one pole.

The capsule may be normal, very thin or greatly thickened. The thickness of the capsule in my cases bore, in the main, some relation to the degree of mobility. The greater the mobility the thicker the capsule. In one greatly prolapsed kidney, however, I found a very thin one. The capsule strips very readily, except in cases with septal prolongations.

The perirenal fat may be diminished or almost entirely gone. The kidney may be suspended by a long vascular pedicle entirely surrounded by peritoneum.

The renal vessels may be greatly elongated and their caliber diminished. The vena cava and even the aorta have been found strongly curved from dragging on the renal vessel.

The pelves and ureters are changed in position and caliber. The ureteric lumen may become temporarily occluded, giving rise to hydronephrosis.

Secondary lesions are produced by pressure from the luxated organ, or from its becoming adherent to surrounding structures. Thus pressure on the cecum may cause severe constipation. Peritoneal bands attached to the kidney may compress the duodenum and the bile-ducts, causing gastric dilatation and slight jaundice.

The organ may become adherent to the edge of the liver, the gall-bladder or ascending colon, and of course to any organ with which it may come in contact.

Outside of hydronephrosis, the principal complication of kidney-ptosis, the organ may, of course, contract any lesion to which it is otherwise liable.

Complicating conditions are general enteroptosis, retroversion and prolapse of the uterus, affections of the gall-bladder and appendicitis, the latter being quite frequent.

Edebohls[6] first called attention to the association of kidney-ptosis and appendicitis, and performed the first lumbar appendectomy in 1905.

SYMPTOMS, DIAGNOSIS AND TREATMENT

Nephroptosis is devoid of symptoms in by far the majority of the cases, at least as long as the patient is in happy ignorance of the condition. For this reason some of these patients should not be informed of the findings, but the relatives should, as otherwise the physician might be blamed later for not making the diagnosis.

The main symptomatic features are pains, gastro-intestinal disturbances and neurasthenia. The pains vary from a dragging, dull pain in the lumbar region radiating down along the right side of the abdomen to the severe paroxysmal pain of a Dietl's crisis. The gastro-intestinal symptoms are mainly those of an ordinary dyspepsia. The degree of the associating neurosis varies greatly, and often is the most disagreeable feature of the condition.

The condition may have to be differentiated from Riedel's lobe, overdistended gall-bladder, carcinoma of pylorus, fecal impaction, etc.

The treatment may be (1) palliative, by corsets, rest, suggestion, etc., or (2) operative.

METHODS OF FIXATION

It is interesting to note that seemingly an American surgeon, Dr. Greensville Dowell, was the first to attempt a nephropexy, in 1874, although at the time he believed he was dealing with a movable tumor. The case is reported by Smyth[7] and furnishes very interesting reading. The patient, an Irish woman, 27 years of age, had for some time suffered from recurrent abdominal pains, when she discovered a very mobile tumor in the right side of the abdomen. Dr. Dowell was consulted about the trouble and concluded that the pains were due to the great mobility of the tumefaction, and reasoned that if in any way it could be immobilized the pains would cease. The patient readily consented to operation and Dr. Dowell later performed the fixation as follows:

A large curved needle threaded with a tape-seton was plunged through the abdominal wall, into the tumor and out again and then tied. The procedure was followed by hematuria lasting for a few days. The operation gave relief from previous symptoms. Three months later the tape broke and there was considerable discharge of matter. Dr. Dowell being away, two other men endeavored to repeat Dowell's operation. They tried twice. Both times the needle broke. In the excitement the needle points were left in the abdominal wall. Dr.

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[4] Harris, M. L.: The Influence of Trauma in the Production of Movable Kidney, The Journal A. M. A., Feb. 13, 1904, p. 411.

[5] Rayer: Maladies de rein, Paris, 1841, iii, 783.

[6] Edebohls: Ann. Surg., xxxv, 17.

[7] Smyth, Dowell: New Orleans Med. and Surg. Jour., 1879, vii, 218.

Dowell later repeated his first operation, but with only temporary benefit to the patient. About seven years later the tumor was diagnosed by another man as a floating kidney, and removed.

The first premeditated attempt was made by Hahn[8] of Berlin. The first successful operation in the United States was done by Weir,[9] in England by Newman,[10] and in France by Bazy.[11]

A great number of procedures have been reported and may be classified as follows:

Suture of Kidney Proper.—Gardner[12] of Melbourne uses two kangaroo-tendon sutures piercing the kidney, and ties over fascia.

Albarran,[13] following decapsulation of the kidney and removal of the perineal fat, passes three silk ligatures through the kidney substance; the upper one is tied to the periosteum of the twelfth rib; the others pass through muscles and fascia.

Morris operates similarly, omitting kidney denudation.

Bruce Clark[14] denudes the kidney slightly and passes silk ligatures through its substance.

Suture of Fatty Capsule.—Hahn[8] sewed the fatty capsule to back muscles and packed the wound with gauze. This procedure was used by Kuester, Esmarch and Nicholas Senn.

Shoemaker[15] fixed the kidney by buttonholing the fatty capsule and suturing it in different ways to surrounding structure.

Gardner sutured the fatty capsule in addition to kidney piercing sutures.

Suture of the True Capsule.—Wolf, Loebstein and Edebohls[16] completely denuded the kidney so as to get firm adhesions, and then sutured the capsule to fascia and muscles.

Bishop[17] denudes the lower pole of the kidney, suturing the free capsule and leaving the upper pole free.

Tuffier,[18] Jacobson and Boecher suture the stripped-off capsule.

Newman[19] also suspends the kidneys from the deflected capsule. Murphy[20] rolls the deflected capsule in folds on either side, suturing these folds to the surrounding tissues. Gounesco[21] partly strips the capsule, suturing it to the periosteum of the eleventh and twelfth ribs with silver wire.

Suture to Lower Rib.—Guyon,[22] Cecherelli,[23] Albarran,[24] Bassini[25] and others sutured the kidney to the lower rib usually in combination with other methods, using mostly silk ligatures.

Suture to Fascia.—Kocker[26] strips the fibrous capsule and sews it with the fatty capsule to the lumbodorsal fascia with silk ligatures, and then packs the wound and allows it to granulate.

Vulliet[27] uses strands of fascia from the erector spinae and subruns the kidney capsule.

Special Methods.—The following men have devised special methods, the details of which would require too much space: Pauli and Duret,[28] Goelet,[29] Harris,[30] Harlan,[31] Lane,[32] Morris,[33] Ferguson[34] and others.

"BASKET-HANDLE OPERATION"

Technic.—After the kidney has been exposed and delivered through the wound, the capsule is split and deflected (Fig. 1). Then the procedure is as follows:

Step 1: Cut with scissors, as indicated by dotted line in Figure 1, making two flaps.

Step 2: Push kidney down into the wound. Draw the artificial suspensory ligaments through the muscles and fascia on either side of the wound. The remaining border of the deflected capsule may be sewed to the transverse fascia.

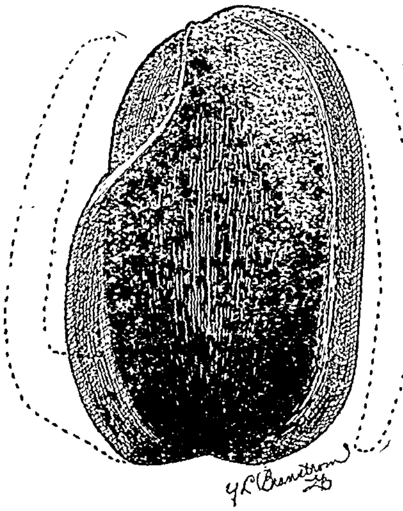

Fig. 1.—Artificial kidney ligaments cut from the split and deflected capsule.

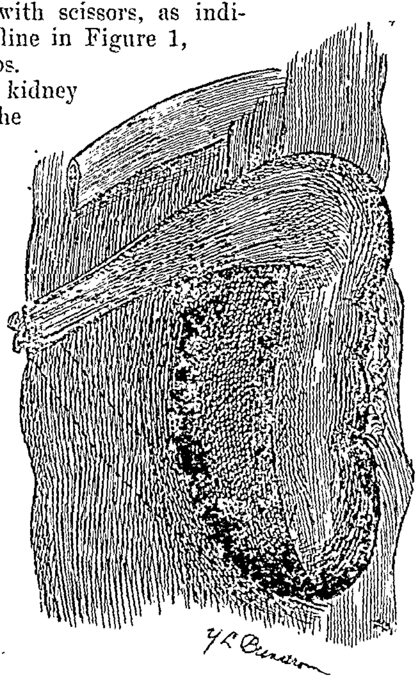

Fig. 2.—Author's operation completed. Capsular ligaments drawn through muscles and fascia forming the "basket handle."

Step 3: Unite muscular layer over the kidney. The kidney is then drawn up against the denuded muscles by the artificial capsular ligaments, the ends of which are tied in a knot, and transfixed by a silk or catgut suture. The united flaps thus form a "basket-handle," from which the kidney (basket) is suspended as in Figure 2.

For some time I have placed the patients in the slanting position (Fig. 3) for all my kidney work.

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[8] Hahn: Centralbl. f. Chir., 1881, p. 449.
[9] Weir: New York Med. Jour., 1883, xxxvii, 169.
[10] Newman: Glasgow Med. Jour., August, 1883.
[11] Bazy: Bull. et mém. Soc. de chir. de Paris, 1899, xxv, 831.
[12] Gardner: Austral. Med. Jour., 1885, p. 145.
[13] Albarran: Presse méd., 1906, p. 253.
[14] Clark, Bruce: Brit. Med. Jour., 1895, i, 575.
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PATIENTS OPERATED ON BY THE "BASKET-HANDLE OPERATION"

Since the first patient[35] operated on, March 20, 1906, I have performed twenty-seven nephropexies by this method with no death and with good anatomic results. The patients were operated on at St. Bernard's, Englewood, Washington Park and Vesta Circle hospitals.

Case 1: Miss S., operated on March 10, 1906. March 24, 1912, condition good.

Case 2: Mrs. E., operated on May 1, 1906. A year later in good condition.

Cases 3, 4 and 5: Patients were operated on at Englewood Hospital. My private records were unfortunately lost. For the last two years I have been vainly trying to obtain the records from the hospital authorities.

Case 6: Mrs. L., operated on April 3, 1909. Oct. 22, 1912, condition good.

Case 7: Miss J., operated on Feb. 24, 1910. March 23, 1912, condition good.

Case 8: Miss P., operated on Sept. 19, 1910. One year later, condition good.

Case 9: Miss L., operated on Oct. 27, 1910. Several months later, condition good.

Case 10: Miss C., operated on Oct. 29, 1910. One year later, good.

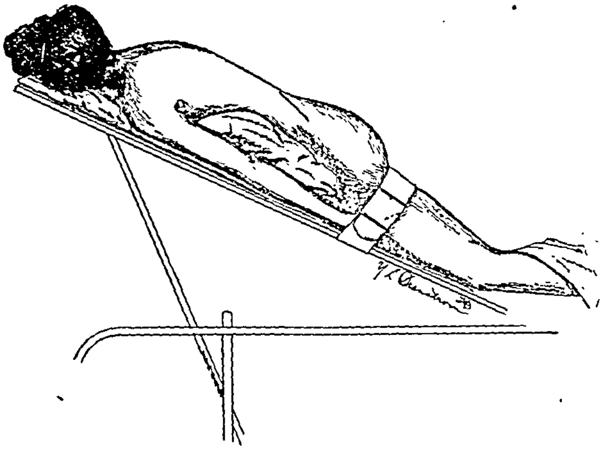

Fig. 3.—Author's position for kidney work.

Case 11: Mrs. N., operated on Nov. 10, 1910. July 30, 1912, good.

Case 12: Mrs. T., operated on Jan. 29, 1911. Nov. 15, 1912, good.

Case 13: Mrs. A., operated on Jan. 29, 1911. Sept. 11, 1912, good.

Case 14: Mrs. A., operated on April 30, 1911. Sept. 14, 1912, good.

Case 15: Mrs. H., operated on Sept. 28, 1911. Oct. 10, 1912, good.

Case 16: Miss H., operated on Sept. 28, 1911. About two months later patient wrote to me that she was in good condition.

Case 17: Miss D., operated on Nov. 21, 1911. Immediate result good.

Case 18: Mrs. A., operated on Nov. 21, 1911. Oct. 2, 1912, good.

Case 19: Mrs. E., operated on Jan. 9, 1912. Dr. Rydin tells me that kidney is in good place. This patient had a frightful postoperative neurosis.

Case 20: Mrs. M., operated on Jan. 24, 1912. Oct. 22, 1912, good.

Case 21: Miss P., operated on Jan. 24, 1912. Oct. 22, 1912, good.

Case 22: Mrs. J., operated on Feb. 2, 1912. Dr. Dahlberg reports condition good.

Case 23: Miss A., operated on March 13, 1912. Immediate results good.

Case 24: Mrs. C., operated on April 13, 1912. Oct. 18, 1912, good.

Case 25: Mrs. R., operated on April 24, 1912. Immediate results good.

Case 26: Mrs. C., operated on May 11, 1912. Oct. 3, 1912, good.

Case 27: Miss A., operated on Sept. 29, 1912. Left hospital in good condition.

The reported condition of these patients refers only to the anatomic results which, as far as I know, are good in all. Some of the kidneys were anchored somewhat low, but they are not movable.

The patients were all females, and except for one on the left side (Case 18) the cases were all prolapses of the right kidney. Nineteen patients (including those at Englewood) had undergone pregnancy. In six patients the appendix was taken through the lumbar incision. In one case I had a complicating thrombophlebitis of the left leg, and in two the most aggravated postoperative neurosis.

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AN UNUSUAL FORM OF MINERAL POISONING AFFECTING THE NERVOUS SYSTEM: MANGANESE?*

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A certain indication of the humanitarian trend of modern times is the ever-increasing interest in the accidents, intoxications and diseases coincident with various trades. The ill effects that arsenic, lead and phosphorus have on workers started this line of investigation, and these intoxications have been so well studied that their clinical pictures are well known. Undoubtedly the most serious and permanent of trade diseases are those which affect the nervous system.

Up to within recent years, only peripheral nervous system poisonings were recognized in workers in metallic and other poisons. Peripheral neuritis is the commonest form of occupational nervous system disorder, and it has for its commonest causative agents lead and arsenic. Other substances which produce neuritis in workers are copper, mercury, carbon bisulphid, anilin oil and the cyanids. In the central nervous system, on the other hand, conditions are different. Of all the substances mentioned, lead alone is known to produce symptoms of central nervous system involvement. The lead encephalopathies with the epileptiform attacks, hallucinations and mental signs are due not so much to the involvement of brain tissue as to the affection of the bloodvessels of the brain, to which the brain changes are secondary. The involvement is so plainly vascular that no part of the brain seems to be especially susceptible or more often involved than the rest.

In the cases which I report here, one is brought face to face with the possibility of the selective central nervous system poisoning arising in metal-workers. The clinical picture, while confusing, is not altogether unknown in workers in certain metallic substances. In its causation, one has to look toward mineral substances formerly considered safe and harmless. Zinc has been extensively used by man since earliest times; practically all authors have considered it innocuous to the human system, if one may exclude the irritating effects on the gastro-intestinal tract which all the heavy materials possess in common. The toxicology of manganese is not nearly so well known, as its use is much less extensive.

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[35] Werelius: Surg., Gynec. and Obst., 1906, ii, 700.

* Read before the Section on Hygiene of Occupations, Fifteenth International Congress on Hygiene and Demography, Washington, D. C., Sept. 24, 1912.

* From the Third Division, New York Neurological Institute.

The cases presented here came under my observation among some workers in the separating-mill connected with a large mine from which zinc is the principal product. In order to make the genesis of this condition clear, a description of the materials, methods and working conditions is necessary.

Eighty-five different ores are found in this mine. One ore, a sesquioxid of zinc, iron and manganese, makes up 45 per cent. of the bulk of the ore body. Willimite, a silicious oxid of zinc, forms 21 per cent.; rodenite, a silicate of manganese 9 per cent., and the red oxid of zinc, 4 per cent. The other eighty-one ores make up the remaining 21 per cent. in varying quantities. Lead and arsenic may be absolutely excluded as causative agents. No trace of arsenic is ever found in the ore. Minute, indeterminable traces of lead are occasionally found in the routine analyses. That lead may be absolutely excluded becomes apparent when we consider that the first grade of commercial zinc must assay less than 0.0025 per cent. of lead. The zinc recovered from this mine is always first grade, and no measures are ever necessary to remove the lead.

A salient point in the separation of the crude ores is the use of electromagnets for the removal of the magnetic ores, that is, those containing manganese and iron. The magnets used here are said to be the strongest electromagnets in the country, and vary in strength from 20,000 to 100,000 ampere-turns. This is done with the ore thoroughly dried. Further separation is done by a specific gravity method under water.

As most of the handling of the ground ore is done in the dry state, the dust problem has been one of much concern. The mine authorities have taken many ingenious means to reduce the amount of dust in the ore and have eliminated a great deal of it. Nevertheless, throughout the mill, except on the floor where the water separation is done, the air which the workmen breathe is laden with a very fine gray dust. In this mineral fog the men work in long shifts, and at the end of their day they are thickly coated with dust. A well-appointed wash-house adjoins the mill in which the men may take a full shower bath, and change their clothes before leaving for their homes.

The material for this paper consists of nine cases occurring in men working in this mill; nearly all the patients acquired the condition while working in the part of the building where the electric separators are situated, or shortly after being transferred thence. The history is practically the same in all cases.

After the man has worked in the dust for a length of time varying from six months to three years, he begins to notice that he has difficulty in walking, the main feature of which is that he is unable to walk down hill slowly. On a level ground and up hill he has no trouble, but when he once starts to walk down an incline, he goes faster and faster until at length he must run to keep himself from falling forward. He is unable to stop and must keep on with ever-increasing speed until he runs against some object which stops him, or until he falls down. Retropulsion develops together with this propulsion and the patient finds himself unsteady on his feet whenever he wants to move. Walking backward is impossible, for as soon as the man tries it, he falls backward or sits down. This is the gait disturbance we see in paralysis agitans, and this is not the only way in which our cases resemble that disease. With the onset, pain and stiffness in the legs were noticed in four cases, insomnia in one, and difficulty in writing in one. The latter patient complained that he could not control his hand well in writing, and that the figures he made were smaller than those he used to make, which also occurs in paralysis agitans.

While the symptoms of this condition are few, they are nevertheless very definite. The patient complains of little excepting propulsion, retropulsion and unsteady station. About half the patients have defective hearing not due to middle-ear disease. The speech is slightly slurring in some cases. The face in all the men has somewhat of the flat, mask-like character of paralysis agitans. There is more or less tendency to impulsive laughter. Tremor of the tongue is common, as is also a fine static tremor of the hands. The legs feel weak and shaky, and the station is insecure. Propulsion and retropulsion in the gait are the most characteristic features. Asynergia is always present in the well-developed cases. The eyes are normal in every respect. Muscular power is well preserved. The deep and superficial muscle reflexes are always normal. There is never any rest tremor of the limbs. Sensations are perfectly preserved. The laboratory offers little aid in the diagnosis. The blood never shows the changes so characteristically seen in lead-poisoning. The urine is negative in those cases which have been investigated. The presence of zinc and manganese in the urine of workers will be spoken of later. The Wassermann reaction was negative in the five cases in which it was employed. The spinal fluid was examined in three with negative findings. On the mental side, nothing characteristic was found. One patient showed a definite intelligence deterioration, similar to general paresis, which has since considerably improved. Two others complained of difficulty in memory and attention which was not demonstrable objectively. Most of these patients come from a class with little or no education which, combined with a language difficulty, has made routine mental examination difficult. It is safe to say, nevertheless, that there is no definite mental side to this clinical picture.

As time will not permit a discussion of all the cases we have investigated, I will make a full report of one which was studied in the New York Neurological Institute.

R. B., aged 49, born in England, married, was admitted to the third division of the New York Neurological Institute, March 11, 1912. His family history was negative in every respect. His early history was uneventful. He denied syphilitic infection. He had pneumonia in 1893. He had been married twenty-eight years and has had three children, all living and well.

He went to work in this mill as a shift boss on the electric separators in 1902, and in the latter part of 1904 he began to have trouble in sleeping and would tire easily. In December of that year he began to lose control of his hand in writing. The letters he made looked small and cramped. He was unable to make the figure 3. It would take him a long time to write out his reports, and they were not clearly legible. At about the same time he became unsteady on his feet, and had difficulty in walking down hill. When he started to walk down hill he would get going faster, and finally had to run until he could [illegible] tree or [illegible] object. Every time he tried [illegible] he [illegible] no sphincter trouble.

of the trouble with his legs and the fact that he was coughing up large quantities of black matter. He continued to cough up much of this black sputum for a year and a half after leaving the mill. For the first year that he was away from the mill, his symptoms gradually progressed until he was almost unable to walk. His speech became affected, and his family had difficulty in understanding what he said. This condition continued until the spring of 1909, when the patient began to improve a little. He became more steady on his feet and his speech was more distinct. He has progressed very slowly since that time. At present he gets around fairly well with the aid of a cane. He cannot walk backward or go down hill without falling. His speech is not entirely clear, his writing is still small and cramped. His memory is perfect; sexual power was preserved.

Physical examination showed a fairly well-developed man of 49 years, weighing 141 pounds. His face was somewhat mask-like and expressionless, and he was unable to whistle. The eyes were entirely negative except for a corneal scar in the right eye, resulting from an old injury, with the iris healed in it. Dr. E. B. Dench made the following report on his ears:

"The reactions of the labyrinth on each side and of each auditory nerve are normal. There was only an insignificant middle-ear condition. I should, therefore, place the auditory impairment in the reception center."

There was a fine intention tremor of the hands. All deep and superficial reflexes were active and equal. There was no Babinski or clonus. The patient showed a tendency to propulsion in his gait which became marked when he went down an incline. He was unable to walk backward without falling. Asynergia was marked in all tests; no ataxia. The electrical reactions of the muscles of the arms and legs were normal in every respect. Sensation was perfectly preserved throughout. The lungs and heart were negative, blood-vessels soft, blood-pressure 126 to 140 m.m. Analysis of the stomach contents showed slight subacidity. The urine showed nothing abnormal except a considerable excess of indican. The blood was normal: no anemia, hyperleukocytosis or changes in the differential count. Wassermann reaction of the blood-serum was negative. The spinal fluid showed the following: Wassermann negative; globulin content normal; cells 3 lymphocytes per cubic millimeter. Fehling's reduction positive—a negative fluid.

The course of the condition is chronic. None of the patients has recovered. Most of them improve when removed from the dust and especially from the magnet floor. Three patients have made little or no improvement. The duration is a matter of years, and while the condition is never fatal, the prognosis for recovery is extremely poor.

Only one of the cases on which this paper is based has come to autopsy. The patient showed the symptoms in rather marked form and died of pneumonia. I am sorry not to be able to report the findings in full, but the material is not as yet ready for sectioning. Grossly, the brain and cord showed nothing abnormal. There was no arteriosclerosis of the larger vessels or any areas of softening. From rather superficial inspection of the brain-stem blocks before imbedding, it would appear that the perivascular spaces of the lenticular nuclei and the outer part of the optic thalami are considerably larger than normal. These are not unlike the "lacunae" described by Marie in certain cases of cerebral arteriosclerosis. These are only mentioned in passing, as I do not at present care to lay too much stress on them as of pathologic importance. No gross tract degenerations were seen anywhere. There were no gross changes in the kidneys, liver or spleen.

I feel that this series of peculiarly similar cases represents a definite disease picture, the cause for which must be found in the working conditions or the material which the men handle. It has been a problem to determine the real causative factor. Zinc, of course, was the one first thought of, but zinc has been regarded for years as a harmless metal, in so far as its effects on the nervous system are concerned. Popoff[1] described a case of general muscular atrophy with gastro-intestinal symptoms in a bronze worker which he ascribed to zinc, but it does not correspond with our cases. Edsall,[2] with an extended experience among zinc workers, believes that zinc never causes a systemic poisoning. Schlockow,[3] in 1879, reported a peculiar disease which he had observed among some workers in a zinc mine in upper Silesia; the symptoms these patients exhibited were similar in many respects to those I am considering here. There was marked intention tremor, but the most prominent symptom was gait disturbance which he described as "stiff, hurried and unsteady." Asynergia was certainly present. The reflexes were normal. The author considered it a spinal-cord disease due to zinc poisoning, although he had no autopsy material to substantiate his theory.

It is interesting to note that the ore taken from this mine in Silesia was not unlike that which our patients handled, in that it contained a considerable quantity of manganese, but there was also lead and arsenic in this Silesian ore, which possibly accounted for some of the symptoms Schlockow reported.

Since zinc cannot be blamed for this intoxication, one must next turn to the other principal metallic substance, manganese. The toxicology of this metal is little known owing to its restricted use. Of all disease pictures reported in literature, none more closely resembles the cases here presented than does that reported by Embden[4] in workers in a manganese dioxid grinding-mill. He reported four cases which occurred in men who worked in an atmosphere of manganese dioxid dust. They showed general muscular weakness, but no atrophy; mask-like face, with inability to whistle. The gait was unsteady, and there was a tendency to fall forward especially on going down an incline. Retropulsion was marked. All tendon reflexes were active and equal. There was a coarse intention tremor which, in some cases, made writing difficult. Voice was slow, unsteady and monotonous. One patient had impulsive laughter. There was no sphincter trouble. Manganese was found in the urine. These symptoms came on after the patients had worked a few months in the manganese dust.

It has been suggested that possibly the high-power electromagnets among which most of these men have worked might play some part in the etiology of the condition. It is difficult to conceive of this as a primary cause, as there are other places where men work in high-power electric fields in which such a condition must have been observed long ago. When one considers, however, that all but one of our patients developed the symptoms while working on the floor with the magnets, it must be admitted that possibly this factor plays an etiologic rôle.

A final word on the absorption and excretion of the poison. Absorption must take place through either the lungs or the alimentary tract. The density of the air dust makes it impossible to avoid inhaling the dust into the lungs. In all the cases there was a history of spitting up of dark sputum long after the man had stopped working in the mill. Nevertheless, it is doubtful whether absorption of heavy metal ever takes place through the lungs, as inspired dust is probably all coughed up or stored in the lymph-nodes and tissues. The gastro-intestinal tract is probably the portal of entry. In the first place, manganese is soluble in hydrochloric acid and thus probably much of the manganese content of the swallowed dust leaves the stomach in absorbable form. The absence of gastro-intestinal symptoms is probably due to the small amount of the poison in the intestine at any one time.

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[1] Popoff: Ein Fall von chronischer Vergiftung mit Zinkoxyddampher und Experimente über die Wirkung einiger Antifermentative Mittel, Berl. klin. Wchnschr., 1873, p. 40.

[2] Edsall: Article in Osler's Modern Medicine, p. 138.

[3] Schlockow: Ueber ein eigenartiges Rückenmarksleiden der Zinkhuttenarbeiter. Deutsch. med. Wchnschr., 1879, p. 208.

[4] Embden: Zur Kenntnis der metallischen Vergiften; über die chronischen Manganvergiftung der Braunsteinmüller, Deutsch. med. Wchnschr., 1901, p. 795.

Of the excretion, little is known. The excretion of most mineral poisons takes place principally through the intestines, with the kidneys as secondary. On one occasion, specimens of urine were taken from four men working on the magnetic machine, none of whom showed any symptoms, and, in each of the specimens, definite traces of zinc and manganese were found. Four urines from other workers in the mill were analyzed and showed no trace of the metal. It was suggested that possibly in the magnetic field the manganese molecule was so altered that its solubility in blood-serum was increased. To determine this, experiments have been made by shaking up the manganese-bearing ore in rabbit's blood-serum both in the magnetic field and out of it. No difference in the solubility could be determined. To speculate on the question why so few of the men employed in the work developed this condition takes one into the field of individual susceptibility, and thus far from the purpose of this paper.

CONCLUSIONS

1. This is a definite pathologic condition, recognizable by a definite symptom-complex.
2. It is a pathologic condition of the central nervous system affecting principally the mechanism of walking and equilibrium.
3. It cannot be placed under the heading of any known central nervous system disease.
4. It is of toxic origin, and in greatest probability the toxic agent is manganese.

This paper is offered as a preliminary report of a more extended work now being done, together with Dr. F. P. Wilbur, to whom my heartiest thanks are due.

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A NEW APPARATUS FOR USE IN BLOOD-CULTURES[*]

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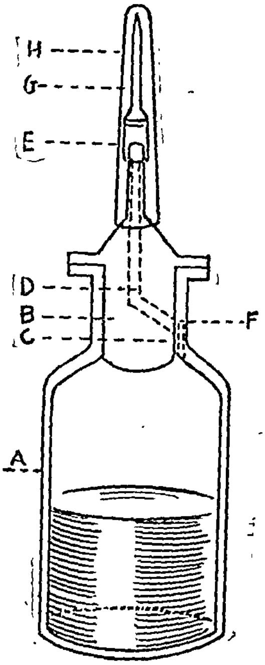
Of all the clinical methods as yet devised for the purpose of diagnosis, prognosis and treatment of disease, there is no single method which finds so wide a range of usefulness and importance and gives results which are so definite as that of blood-cultures. Yet the general practitioner seldom avails himself of the method of culturing bacteria in the blood, its use being restricted mainly to hospital practice. This is due to the difficulty of procuring the blood. By the methods at present in use the process of obtaining blood is exceedingly cumbersome, and contaminations are frequent, so that one has to have special training in this line of work, for otherwise the results are not only unreliable but also even misleading.

By the use of the method devised, the practitioner can avail himself of blood-cultures as readily as of the Widal reaction in typhoid.

DESCRIPTION OF APPARATUS

The apparatus is composed of a glass bottle (*A*), containing a ground air-tight stopper (*B*); along the lower half of the inner surface of the neck of the flask there is a longitudinal groove (*C*). The stopper contains a longitudinal canal (*D*), which opens above at *E*, and below the canal is continuous obliquely downward and outward, opening at the ground side of the stopper, at *F*, which lies below the upper level of the groove (*C*). It is evident that if the stopper is placed in the bottle so that the lower opening of the canal (*F*) opens into the groove (*C*) on the inner surface of the neck, the inside of the flask will be in direct communication with the outside by means of the groove (*C*) and the canal (*D*). It is also evident that rotation of the stopper sideways, so that the lower opening of the canal (*F*) no longer opens to the groove (*C*), shuts off the inside of the flask from all communication with the outside (to facilitate rotation of stopper a lubricant such as graphite is recommended). Place in bottle 0.5 gm. of finely powdered sodium chlorid, or 10 c.c. of 1 per cent. solution of ammonium oxalate in normal saline. Replace stopper so that there is communication between the lower opening of the canal in the stopper (*F*) and the groove (*C*) on the inner surface of the neck of the bottle. This will afford direct communication between the inside of the flask and the outside air.



Apparatus for obtaining blood-cultures. *A*, glass bottle; *B*, air-tight stopper; *C*, groove in neck of flask; *D*, canal in stopper; *E*, upper opening of canal; *F*, lower opening; *G*, needle; *H*, test-tube. In this view of the apparatus the canal (*D*) is in communication with the groove (*C*). By turning the stopper this communication is broken.

Next produce a vacuum in the flask. This can be accomplished in several ways, either by a water-pump, vacuum-pump or by the simple aspiration of the air with an ordinary syringe or mouth (as suggested by Mr. Layton). I found that the simplest way of producing a vacuum and at the same time sterilizing the contents of the flask is by placing the flask in water (or brine) with its neck above the level of the fluid, and then boil the water or suck the air out with the mouth. The heat will rarify the air in the flask and thus a partial vacuum, sufficient for all practical purposes, will be produced. The same result can be accomplished with dry heat. As soon as you have obtained the vacuum, irrespective of the method employed, break the communication between the inside of the flask and the outside air by turning the stopper sideways so that the lower opening of the canal in the stopper (*F*) will no longer be in communi [illegible] e groove (*C*) [illegible] inner surface of t [illegible] sk. needle (*G*) to sto necting piece of rubber, cover needle with test-tube (*H*), and sterilize the entire apparatus by boiling or by dry or steam heat. The apparatus is immediately ready for use or at any date in the future. (The vacuum keeps.)

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[*] From the Bacteriologic Department of the Long Island College Hospital.

USE OF APPARATUS

To use the apparatus, paint the bend of the elbow with tincture of iodin (or sterilize the part by any other method), plunge the needle into the median basilic or cephalic vein, and then rotate the stopper so that the lower opening of the canal (*F*) communicates with the groove (*C*) on the inner surface of the neck of the flask. The vacuum in the flask will rapidly suck in the blood from the vein.

Having obtained the desired quantity of blood, 10 c.c. being quite sufficient for all practical purposes, break the communication between the inside and outside of the flask by rotating the stopper sideways and then remove the needle from the vein. Cover with collodion the opening in the skin caused by the entrance of the needle.

The flask containing the blood is now thoroughly shaken. The sodium chlorid or the ammonium oxalate used prevents the blood from coagulating, but is not bactericidal. In fact, the bacteria commonly found readily multiply in it.

The blood thus obtained can now be taken to the laboratory and subjected to the usual process.

When the typhoid bacillus is suspected to be the infective organism, instead of ammonium oxalate solution or salt, 10 c.c. of bile are put into the flask, and after the blood has been obtained in the manner described, the mixture is incubated in the flask without further manipulation. Likewise, when the pneumococcus is suspected as the cause of the bacteriemia, a slightly alkaline solution of 10 per cent. peptone is placed in the flask, and 1 per cent. dextrose as recommended by Wiens, and after the blood has been obtained the flask is incubated. Experience has convinced me that practically all microorganisms found in the blood grow readily on bouillon or glucose bouillon, so that if the blood is obtained in a bottle containing the latter medium and the mixture incubated, no further manipulation of the blood is necessary.

THE ADVANTAGES OF THIS METHOD

1. Contaminations are absolutely excluded, for the blood does not come at all in contact with the air as the multiple manipulations of the blood are dispensed with, the flask acting both as a syringe and as a container of the nutrient medium.
2. The general practitioner of the city or country can avail himself by this method of blood-cultures, for the attending physician can procure the blood when he visits the patient, and the flask can be brought to any laboratory for further examination. All one has to determine from now on is the microorganism present; and it means no more than the determination of any microorganism when pus is inoculated on an agar tube. Hence the expense to the patient is but trivial. The cost of blood-cultures by the present method is prohibitive for most patients. Furthermore, by the present method, the country practitioner could not avail himself of blood-cultures. By this method he can send the flask containing the procured blood to the nearest laboratory for further examination. The flask can be placed and shipped[1] in a vacuum bottle or in the center of a roll of cotton wool which would prevent the lowered temperature from destroying the bacteria in the blood.
3. The sight of syringes, needles, test-tubes, flasks, mediums, etc., frighten the patient, who in most instances anticipates a major operation. With this method he at the most anticipates no more pain than is caused by a hypodermic needle.
4. One has at all times a sterile apparatus which can be used at once as the occasion arises.
5. As the entire apparatus can be easily carried in the vest pocket, it is very convenient for obtaining blood outside of the laboratory.
6. The obtaining of blood with this apparatus is so simple that any one can undertake it.
7. By the use of this apparatus a nice clear serum is obtained without hemolysis of the red cell, which is a particular advantage when the blood is obtained for Wassermann, Widal, miostagmin or cancer reactions. Of course this apparatus can be used for obtaining blood for any serologic purpose.
8. The apparatus saves the outlay for expensive syringes, and furthermore will last a lifetime.

907 St. Marks Avenue.

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[1] According to the postal regulations (given in THE JOURNAL A. M. A., March 6, 1909, p. 791), cultures and diseased tissues are unmailable to private laboratories or persons; they must therefore be transmitted by messenger or express.

A METHOD OF TONSILLECTOMY BY MEANS OF THE ALVEOLAR EMINENCE OF THE MANDIBLE

A NEW GUILLOTINE AND A SNARE [*]

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ST. LOUIS

The essential and only original features of this method consist (1) in dislocating the tonsil out of its soft movable bed in a direction upward and forward to the point where is met the eminence on the inner side of the lower jaw made by the last-formed molar tooth in its socket with the gum covering it, to which I have given the name "alveolar eminence of the mandible"; (2) in putting the tonsil through the guillotine by the eminence alone (see below) or with the aid of the finger on the anterior pillar. All efforts to move the tonsil forward and upward or upward and forward for surgical purposes must needs involve the service of this eminence more or less as will be seen when the topography of this area is studied. On June 9, 1910, I presented this method to the American Medical Association at its meeting in St. Louis,[†] with patients, specimens, etc. The text of this presentation was published in THE JOURNAL,[1] but not as a part of the proceedings of the 1910 meeting. Since then I have written two papers[2] dealing with this technic for purposes of narrating further clinical experience with it, and for considering further developments in its instrumentarium at the hands of several friends of the method. In this paper I shall consider the subject from these two aspects again with the authority of a somewhat greater experience.

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[*] Read before the American Academy of Ophthalmology and Oto-Laryngology at Niagara Falls, Ontario, Aug. 20, 1912.

[*] Because of lack of space this article is abbreviated in THE JOURNAL by the omission of the history and description of the guillotine, anatomy, etc. The complete article appears in the author's reprints.

[†] THE JOURNAL A. M. A., July 2, 1910, p. 60.

[1] Sluder, G.: A Method of Tonsillectomy by Means of a Guillotine and the Alveolar Eminence of the Mandible, THE JOURNAL A. M. A., March 25, 1911, p. 867.

[2] Sluder, G.: A Method of Tonsillectomy by Means of a Guillotine and the Alveolar Eminence of the Mandible, Tr. Am. Laryngol., Rhinol. and Otol. Soc., 1912; Tonsillectomy with Presentation of Specimens Removed by the Author's Method, Jour. Missouri State Med. Assn., March, 1912.

CLINICAL EXPERIENCE

The effort to execute a tonsillectomy by means of a fenestrated instrument, placing its ring behind the tonsil and using it to pull the tonsil forward and upward, relying on pressure on the anterior pillar or tucking with the finger to put the tonsil through the aperture, must needs involve the service of the alveolar eminence of the mandible to a greater or lesser degree. In my experience the more familiar one becomes with the anatomy of this eminence and the more one utilizes it in this technic the higher becomes the percentage of perfect results. Furthermore, for much of the repair work — that is, removal of pieces that have escaped the first setting of the guillotine — an intimate knowledge of the construction of this eminence is absolutely necessary. When the surgeon becomes familiar with this construction I believe that he can repair all faults of the first setting of the guillotine to an extent which will bring his results up to 99.5+ per cent.

The lymphoid tissue of the lingual is apparently continuous with that of the faucial tonsil above. Occasionally, I have seen wounds heal perfectly and remain so for three or four months; but a year later they showed a well-defined mass, resembling the original tonsil, which had grown up from the lateral aspect of the lingual tonsil into the site of the removed faucial tonsil. Twice I saw lymphoid tissue transplanted on the wound of a perfect tonsillectomy.

In a recent paper[2] I stated that I thought there arose about once in three hundred tonsil cases a condition of (or with) the alveolar eminence that did not lend itself to perfect execution of this technic and that I had not been able to determine what it was. More recently, I believe that I have made out that at least a part of this condition is due to the fact that the eminence lacks its convexity, being, instead, a sulcus whose transverse boundaries are the free margin of the alveolus above and a very highly emphasized mylohyoid line below. This condition is rare in childhood but somewhat more frequent in later life. I believe this to be the anatomic explanation of a part of the 0.4 per cent. of failures. The remaining part is explained by an unusually high setting of a thin, soft tonsil in the soft palate, in some instances even touching the uvula. Such a tonsil may usually be secured in the grasp of the guillotine (upper part first); but should a thin piece escape in the upper pole of the wound it will sometimes be found impossible to repair this fault. A thicker piece of tonsil is almost always easily removable wherever it may be.

Another source of difficulty in the employment of this technic is peritonsillar infiltration. The feature on which the possibility of this method depends, altogether, is the difference in consistency between the tonsil and its environing muscular and membranous tissues. Therefore, in so far as this difference is lessened, either through softening of the tonsil or through hardening of the peritonsillar tissues, as from peritonsillar phlegmon, just so much are the technical difficulties increased and the certainty and accurate security of its execution decreased.

At present, I feel that after the surgeon is thoroughly familiar with the alveolar eminence of the mandible it is almost uniformly a peritonsillar infiltrate that prevents a perfect enucleation with the first setting of the guillotine (save, of course, the rare exception in the eminence, cited above). The flaw will be found to vary from a pin-head buttonhole in the capsule, made by an adherent point, to a patch of capsule 8 or 10 mm. in diameter with more or less (sometimes none) of the tonsil tissue with it, remaining *in situ.* About 5 or 7 per cent. of tonsils require a second setting of the guillotine.

Peritonsillar infiltrates, however, are not a bar to the employment of this method. The surgeon learns to estimate them by recognizing a thicker layer of tissues over the ring of the guillotine after he is reasonably sure that the tonsil has all been put through either on the eminence alone or stroked or kneaded through with the finger, according to his election. He learns to recognize this thicker layer either by his sense of touch during the operation or sometimes by its appearance. I believe that he will learn to estimate it by touch first; and he will always recognize it more accurately by touch. If the infiltrate be recognized the surgeon can usually complete his operation by being more careful in his manipulations and more deliberate in his judgment of when to do the cutting. He must also be very careful lest the setting of the tonsil slip in the grip of the guillotine, even after he is sure that he has it. This happens much more easily than might be thought, under these circumstances.

I employ this method for all tonsils under all circumstances with any anesthetic or without one and have been successful to the extent of 99.5+ per cent. perfect results (during the last eighteen months). I operate preferably under nitrous oxid, a plea for which was admirably presented by A. C. Gundelach[3] last year. The instrument I use is the modification of the Physick guillotine that is described and pictured in my first text[1] on this subject. I have not been able to obtain so high a percentage with any of its modifications. The average bleeding for 310 children from 2 to 15 years old in the St. Louis Children's Hospital was 70 c.c. (4⅓ tablespoonfuls) for both faucial and pharyngeal tonsils, under nitrous oxid anesthesia.

INSTRUMENTARIUM

In the construction of the first model of the guillotine I gave careful consideration to several things. It was the product of the six years' development period of this technic. The shaft was strengthened so that it would not bend while in use. Its length was carefully adjusted so that it should be just right — a shaft too short hampers the movement of the surgeon's hand and one too long rapidly loses its leverage. The angle at which the handle was attached to the shaft was proved by experiment to be the most advantageous for the surgeon's grip and wrist movements. The shape and sizes of the aperture were determined to be the most advantageous. The extension of the thumb-piece of the blade beyond the handle was decided by experiment to be that which left the blade under the most nearly perfect control of the surgeon in whatever position his wrist might necessarily turn, and under circumstances of great or little strain. For these reasons I felt it worth while to accompany its description by mechanical drawings with a scale for measurement, that the surgeon might know whether the instrument which had been sold to him corresponded to the one described.

This instrument had, however, one shortcoming for many operators. The blade was made or should have been made dull. The dulling of the blade is absolutely necessary in order that it may follow the connective tissue bed between the capsule and the constrictor muscle. This was emphasized in the original text. This feature, however, seems to have made difficulties for many operators. They have complained that although they could secure the tonsil satisfactorily they could not squeeze the blade with enough strength to make it cut through the tissues; and that they could not strip the tissues off from the end of the ring. Stripping the ring seems to me a very simple thing and easily done. I know, however, from personal observation that there are some experienced and skilful surgeons who cannot do this stripping — who seem to have no knack or aptitude for learning it. I have seen the tissues thus engaged in the guillotine amount to almost a major difficulty in their hands. For this reason, they demanded that their blades be sharp. In the substitution of the sharp for the dull blade the percentage of their satisfactory results decreased, and the consequent bleeding increased.

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[3] Gundelach, A. C.: Nitrous Oxid Anesthesia in Tonsil and Adenoid Operations, Interstate Med. Jour., November, 1911.

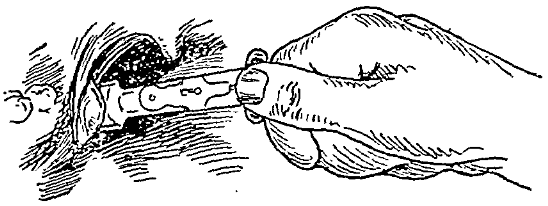

Fig. 1.—First stage: the introduction of the guillotine. (After Ballenger.)

Feeling that this technic offered a quick and certain means of securing the tonsil, several surgeons, friends of the method, including myself, have modified its instrumentarium with the desire to overcome these troubles; the results I record below.

Ballenger was its first champion.[4] He added three original pictures (Figs. 1, 2 and 3) which help greatly in explaining the text, and suggested a pistol grip handle (Fig. 4) to be put to the shaft, which closes the blade and gives the operator a chance to squeeze it to better advantage, thereby allowing the blade to remain dull. He has also described orally[5] a guillotine provided with two blades, one dull, for engaging and holding the tonsil in the grasp of the instrument and bruising the blood-vessels, and the other sharp, which is pushed across the ring for cutting off the tonsil. The dull blade helps to control the bleeding; the sharp one avoids the troubles previously cited. Ballenger also mentions that his écraseur lends itself to the technic.

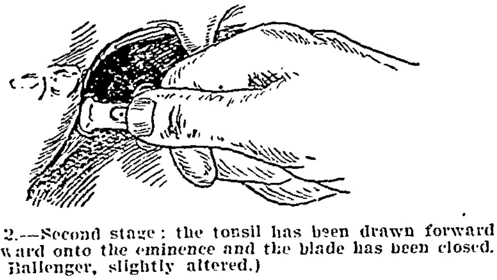

Fig. 2.—Second stage: the tonsil has been drawn forward and upward onto the eminence and the blade has been closed. (After Ballenger, slightly altered.)

Next, Luther C. Hood used the guillotine as a forceps to secure the tonsil and then passed a snare over the entire instrument that he might do the cutting with it, thinking that the snare-wound would bleed less.

Then J. C. Beck substituted a Pierce-Mueller snare with a Vedder tip (Fig. 5), using the fenestrated tip instead of the ring of the guillotine. He passes it behind and below the tonsil, draws it upward and forward or forward and upward and tucks the tonsil through the ring-tip with the finger, relying on the snare-wire (over which he then no longer has control) to follow in the connective tissue bed of the tonsil for a perfect enucleation, thinking the snare-wound would bleed less.

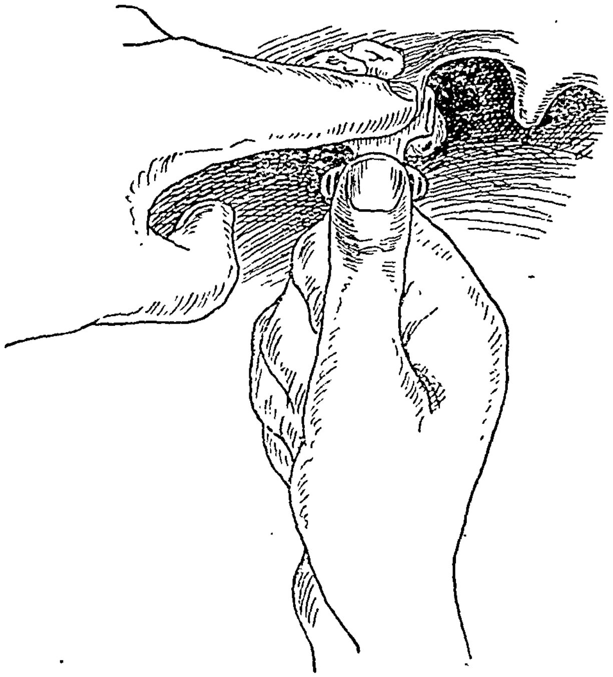

Fig. 3.—Third stage: the handle has been rotated downward to clear the field of operation and the finger of the other hand introduced to feel the distal arc of the aperture, recognizing whether the tonsil has all gone through the aperture, and pushing it through if necessary. (After Ballenger.)

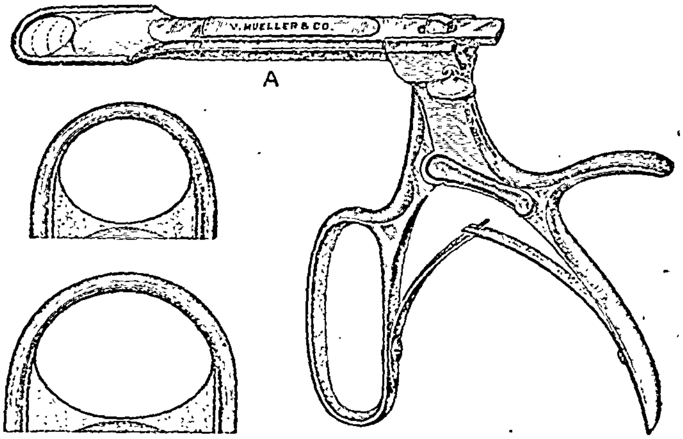

Fig. 4.—Sluder's guillotine with Ballenger's handle.

A little while later W. E. Sauer, adhering largely to the original, turned the thumb-piece downward to lie parallel to the handle and perforated it with a screw which took its hold in the handle (Fig. 6). Thus he is able to put the power of the screw in pressure for the final cutting, thereby permitting the use of a blunt blade, 1 mm. in thickness at its free edge, likening this to an écraseur and so controlling the bleeding.

Each of these modifications has features of distinct advantage, as well as some that are less advantageous.

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[4] Ballenger, W. L.: Diseases of the Nose, Throat and Ear, 1911, Ed. 3, p. 428, Lea & Febiger, Phila.

[5] Presentation of New Instruments, Tr. Am. Laryngol., Rhinol. and Otol. Soc., 1912.

According to my experience, each lacks the leverage of the original model and the absolute command that the surgeon readily exercises with it. Ballenger's instrument is perfect except that in certain positions of the wrist the flexors of the forearm must work under great disadvantage thereby losing some of their power. Hood's modification of the technic is perfect except that it prolongs the procedure somewhat and introduces a more complicated and less trustworthy instrument, the snare. Beck's instrument in my hands is more unwieldy and much less accurate in its execution than the original. In all of the guillotines the margins of the gap, in which the final cutting is to be done, are rigid—strong enough to withstand great pressure—so that, when in use, with the blade being pushed across, slowly narrowing the gap, the surgeon may tuck the tonsil through despite a peritonsillar infiltrate, which may sometimes then require great pressure and make it difficult. The rigidity of the narrowing gap makes this possible with all the guillotines.

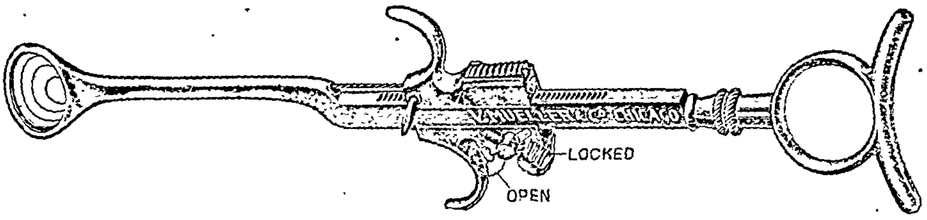

Fig. 5.—Beck-Mueller tonsillectome.

In Beck's instrument the narrowing gap which is to do the cutting is a snare-wire loop concealed and protected in the Vedder tip. As soon as the snare is pulled the loop is released from its rigid protector. It must then be trusted to follow in the connective tissue bed. Frequently it does follow nicely, especially if there are no adhesions between the capsule and the subjacent tissue. But should it not do so the surgeon has not the power to tuck the tonsil into it because he has nothing rigid to resist his pressure; the flexible wire bends with the tissues. He therefore has no rigid ring over which to pass the finger-tip in forming his final judgment of when to cut. For these reasons the repair work which may be frequently necessary cannot be done, especially the removal of thin tough pieces, which is quite possible, usually, with the original model. A small finger-tip is also a disadvantage for Beck's instrument. In other respects it is admirable, possessing the advantage of the slowly strangulating snare.

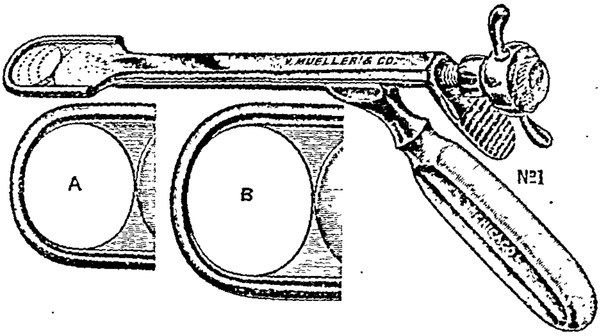

Fig. 6.—Tonsil guillotine with a dull blade. Sauer's modification. The instrument is made in two sizes, *A* and *B*.

Sauer, in his modification, has retained the original largely and has added a power screw which permits of great pressure slowly applied; under his blunt blade this is the equivalent of the snare-wound. It, however, lends itself less advantageously to the surgeon's grip and wrist movements than the original; and the blade, being blunt, sometimes permits escape of small parts despite great care. In the effort to prevent this Sauer has added a ratchet which prevents backward slipping of the blade. In my experience, difficult repair work cannot be done with a blunt blade. Were it not for these defects it would, to my mind, be the ideal instrument.

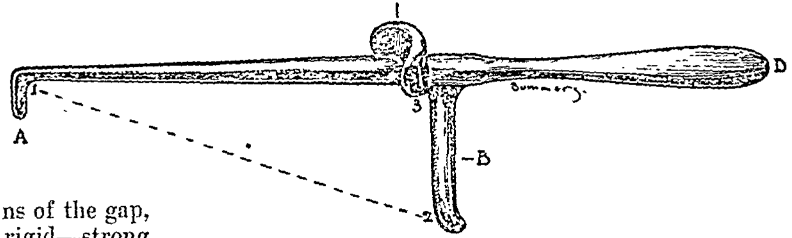

Fig. 8.—Mechanic's "dog." *A*, the hook for engaging in the shaft of the guillotine; *B*, "prong" for pressure on the thumb-piece of the guillotine. The "pitch" or biting distance of the "dog" is the difference between the distance from 1 to 3 and from 1 to 2, or about ½ cm. *C* is a flange arising from the shaft, which fits into the crotch between the thumb and forefinger to prevent slipping of the hand when a single hand is used to do the compression of the dog to the guillotine. *D* is the handle of the "dog," made in such form that it serves as a tongue-depressor.

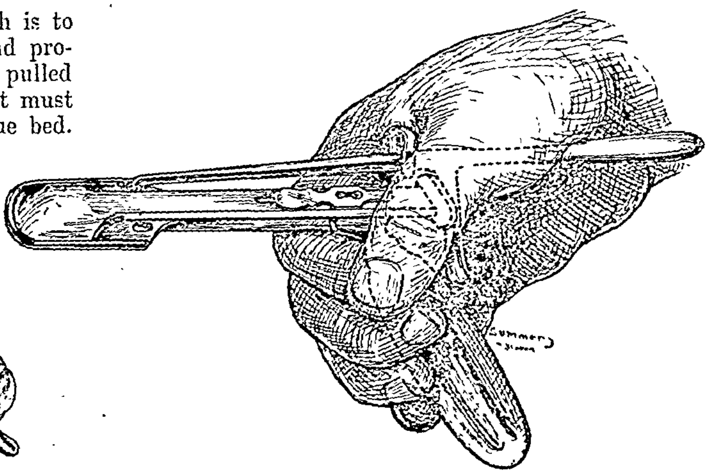

Fig. 9.—Setting of the "dog" to the guillotine and compression by one hand. *In this position the cutting may be done as slowly or as rapidly as the surgeon may elect.* The power of the "dog" thus applied is very great.

In the effort to meet the desires of all operators and to remove the shortcomings of the method in their hands, I, too, have tried to devise some instruments.‡

After a trial of all the modified instruments and their usages, including my own, I so much prefer the original model that I have been to some pains to preserve it and still meet the requirements of all operators. Therefore, I have supplied it with increased power (that may be instantly or slowly applied), which shall be strong enough to make the dull blade cut through. In comparing the wounds made by a dull blade and a snare-wire

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‡ Tr. Am. Acad. Op. [illegible], 1912.

I have not been able to determine any difference from the standpoint of hemorrhage; for instance, between Beck's snare and Ballenger's, Sauer's or my own blade, which may now be dulled or even blunted to a degree to please the individual operator. In my opinion it must not, however, be blunted too much, or the tissues will slip from under its grasp, and the difficult repair work cannot be done with it; it will slip over instead of cutting under the piece which is to be removed. (See above.) I have been able to add this power to the original by means of what is described as a mechanic's "dog" (Fig. 8). It consists of a lever with a hook on the distal end which is engaged in a hole made in that part of the shaft which becomes exposed after the blade has been pushed across the aperture. At the point of the thumb-piece (after the blade is closed), is given off an arm 2½ inches long at a right angle. As the "dog" is applied the thumb-piece is carefully engaged just under the tip of the arm. The shaft of the lever is then pushed down to make it lie parallel to the shaft of the instrument. This may be done as a combined movement with two hands; or may be accomplished with one hand as shown in Figure 9. The distance between the hook and the thumb-piece has thereby been shortened to the extent of the difference between the hypotenuse of the right-angled triangle (Fig. 8, 1, 2, 3) and its next longest side (about one-fourth inch). The squeezing power of this leverage will be found to be very great. It may be applied as slowly or rapidly as desired. The handle of the "dog" makes an excellent tongue-depressor.

Dr. George Fetterolf[6] has described in a most masterly fashion the anatomy of the tonsil with special reference to the plica triangularis, and seems definitely to have cleared up our ideas concerning this structure. He explains that it will be observed from the study of the anatomy that the tonsil is not a structure that may be removed by a single instrument. It is to be noted that the above-described technic in its entirety pleads the exact contrary. I believe from his text, however, that Fetterolf is unfamiliar with this technic.

In the original description of this method[1] the history and description of the guillotine, anatomy, etc., are given as well as I know them.

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EXERCISES IN THE TREATMENT OF PTOSIS OF THE ABDOMINAL ORGANS *

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In looking over the literature on this affection one finds certain writers whose names stand out prominently, on account of the particularly elucidative work they have done. Such are Glénard, after whom the affection has been named, Stiller[1] because of his remarkable book on asthenia, Lovett and Reynolds[2] of Boston on account of their scholarly work on the center of gravity of the body and the effects of that center being displaced. Among others M. L. Harris[3] of Chicago has also made extensive studies of the body form and its relation to the proper position of the viscera.

That the study of this affection is important impresses one strongly when one considers that the condition which Stiller calls asthenia can be looked on, and no doubt is, synonymous with what other writers have described under the name of status phthisicus.[4]

The condition being so predominantly a mechanical one, it would naturally stand to reason that mechanical forms of therapeutics, particularly gymnastic exercises, ought to take a prominent place. But, along what lines should such efforts be directed? Most writers have found a solution of the problem in the form of specially constructed corsets or in various types of adhesive plaster bandages. Last year Dice[5] and McCaskey[6] described very much the same thing, namely, the application just above the symphysis of a short adhesive strap by means of which the abdomen is lifted up through a belt around the hips, one having it tightened by a buckle and strap arrangement, the other by a lacing device. Both were enthusiastic about the good effect of their apparatus in cases of gastroptosis, neither being aware of the similarity of the two devices. On reading these articles it occurred to me that if the tonus of the obliquus abdominis externus on each side could be developed by training one would have exactly the same effect as that produced by the bandages.

While most writers on the subject of ptosis of the abdominal organs recommend gymnastic exercises as an important feature in the treatment, few have given a detailed description of how and why. All seem to agree that the abdominal walls are relaxed, that there is a more or less pronounced lumbar lordosis together with a condition of round shoulders, flat-chestedness and acuteness of the so-called epigastric angle as being the gross features of changes of bodily shape that go with ptosis of the abdominal organs. From a gymnastic point of view the correction of these conditions would consequently be to straighten the upper spine, to develop the chest, to increase the capacity of the lungs, to strengthen the abdominal walls and to overcome the lordosis. But these are just the things accomplished by a rational system of gymnastics. If one studies the Ling system, one cannot help being impressed by the idea that it seems to be constructed just for the purpose of preventing or overcoming this particular condition. These facts might give reason for extensive speculation, particularly as to children, especially those that have inherited the so-called stigma or predisposition for this affection. The question nearest to hand then is, Is enough detailed attention given to the question of the physical education of children to-day? Is not the condition of flat chest, round shoulders, pot-belly common enough among school children to deserve the special study of our educators, so as to prevent them from sooner or later falling prey either to the neurasthenia that goes with this affection or to tuberculosis?

For the purpose of classification, one might group the patients as follows: (1) those that have inherited, and (2) those that have acquired the condition.

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[6] Fetterolf, G.: Anatomy and Relations of the Tonsil in the Hardened Body, Am. Jour. Med. Sc., 1912, i, 37.

* Read before the North Shore Branch, Chicago Medical Society, Dec. 3, 1912.

[1] Stiller, Berthold: Die asthenische Konstitutionskrankheit, Stuttgart, 1907.

[2] Reynolds, Edward, and Lovett, Robert W.: An Experimental Study of Certain Phases of Chronic Backache, The Journal A. M. A., March 26, 1910, p. 1033. Reynolds, Edward: Tr. Am. Surg. Assn., xxviii, 473

[3] Harris, M. L.: Movable Kidney: Its Cause and Treatment, The Journal A. M. A., June 1, 1901, p. 1527.

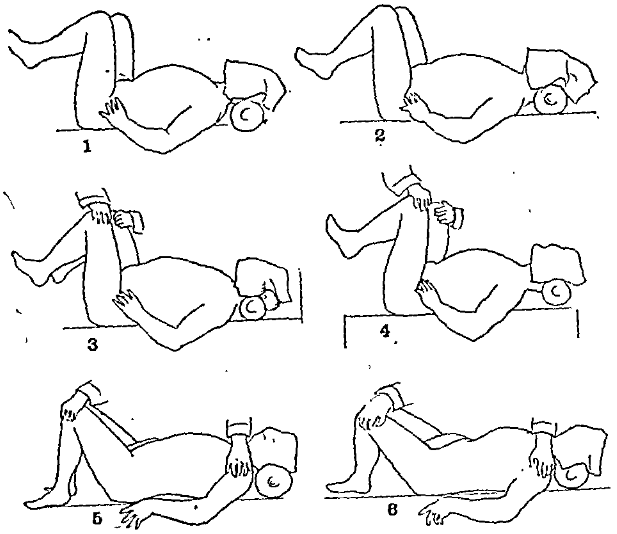
[4] Möller, Axel T.: Svenska Gymnastiken i In- och Ut-landet, 1911, p. 196.

[5] Dice, S. D.: A Plaster Support for Gastroptosis, The Journal A. M. A., Sept. 30, 1911, p. 1125.

[6] McCaskey, G. W.: A Simple Method for the Mechanical Treatment of Glénard's Disease, The Journal A. M. A., Oct. 28, 1911, p. 1454.

In the first class we have (*a*) children under puberty, and (*b*) those having attained physical development.

In the second class we have (*c*) women whose abdominal walls on account of frequent pregnancies are so relaxed that their organs have become displaced, (*d*) those who have acquired the condition through accidents or because of the character of their work.



Figs. 1 and 2.—Abdominal breathing with the knees raised.

Figs. 3 and 4.—Same as 1 and 2, but with downward pressure against the knees by the operator.

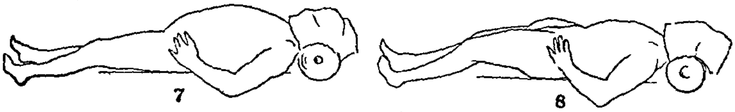
Figs. 5 and 6.—Swinging of the knees from the middle line to the side under exhalation, with resistance by the operator. (These would have been better with the feet raised so that the thighs are at right angles or less with the trunk.)

Speaking of Group 1*a*, there is no doubt that good hygiene, plenty of outdoor exercise, and particularly daily gymnastic exercises of a rational kind carried out through their school years will do much to lessen or perhaps even entirely remove that inherited predisposition for this affection.

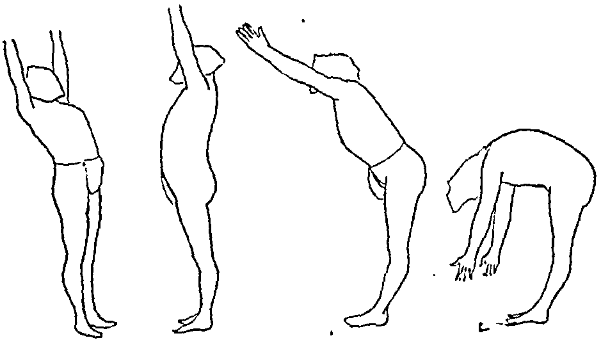
Of Group 1*b* we no doubt can say the same as about the preceding. Hygiene and outdoor and proper gymnastic exercises would be beneficial indeed; but here one meets the difficulty that the patients do not find the time and have not the perseverance necessary to accomplish results. As far as my limited experience goes these are the cases in which one will have the least success.

As concerns Groups 2*c* and 2*d*, I can best give my views on that by describing the routine way in which we treat this class of patients at the Central Free Dispensary. The patient is first placed prone on the table or bench and given a thorough manipulation of the tender muscles of the back, particularly those on both sides of the spinal processes and the edges of the trapezius; the latter are massaged in order to relieve the headaches that most of these patients are suffering from.[7] After the back has been thoroughly manipulated we try to mobilize the spine somewhat by fairly strong pressure on various portions of the back while the patient exhales.[8] We then turn the patients over on their backs and give a thorough massage of the abdomen for the purpose of stimulating the peristalsis, as almost all these patients suffer from constipation. The abdominal massage also has a tendency to increase the appetite. Then we begin with the exercises for training the muscles of the abdominal wall, and teach the patients abdominal breathing. Their knees being flexed we try to induce them to make a strong exhalation while contracting the abdominal walls. This takes a little time as most of them are chest breathers and are not in the habit of using their abdominal muscles.

The next in order is to teach them to pull their knees up while exhaling. Starting with the knees raised so that the thighs are at right angles to the body, the patients are told to pull them still higher while they blow out audibly. Later on the operator makes a resistance to the motion of the knees, this resistance being graduated according to the strength of the patient. When the patients after a time have learned to do these exercises with comparative ease, we increase the resistance to the motion of the knees to such a degree that the patients cannot move them, but have to hold them against the pulling of the operator while they do expire. Now they experience the real sensation of the lifting effect of the movement. Having advanced the patient that far one can add various exercises that will tend further to strengthen the abdominal walls, as for instance to swing the knees, feet still being lifted from the bench, from the middle line to the side with the operator resisting and the patient exhaling, or later to combine the swinging and the lifting of the knees by telling the patient to put the knees up toward the armpit, the operator resisting and the patient exhaling.



Figs. 7 and 8.—The Oldevig exercise.



Figs. 9 and 10.—A comparison of the outlines of the body in ordinary erect standing position with the arms raised (Fig. 10) and in the "strain-standing position" (an exercise from the Ling system) in which (Fig. 9) the exercising person stands about the length of a foot away from the wall and leans back against the wall, resting against the forefingers of his extended hands, while he tries to push his hand up as high as possible, thereby causing a strong contraction not only of the muscles of the abdominal walls, but also of the extensors in the upper region of the back.

Figs. 11 and 12.—Two periods in the bending of the trunk forward and down with exhalation.

We also teach an exercise, described by Oldevig[9] of Dresden, in which the patient is lying flat on the back with the knees straight and one foot crossing over the other, slowly and gradually contracting all the muscles of the abdominal wall under exhalation, while the operator is making a slight resistance by pressing his hands over the trochanters. This exercise is a little hard to teach, but the intelligent patients soon learn. The fact about this exercise is that the muscular contraction is exactly the same as the one used in the act of defecation, except that the diaphragm is relaxed and rises with the contraction of the other muscles, and consequently the abdominal pressure does not increase to any considerable degree; thus the danger of causing hernia is removed. This exercise has the advantage also of causing the contraction of the muscles of the perineum and the pelvic floor, which increases the bearing capacity in this region. Before rising from the table the patients put on a simple abdominal supporter (the pattern of which we furnish, so that they can make it themselves). Of late we have started to use the adhesive-plaster bandage which Rosewater of Cincinnati has described.[10]

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[7] Müller, A.: Deutsch. Ztschr. f. Nervenheilk., Nov. 23, 1910, p. 235.

[8] Taylor, Madison: Med. Rec., Oct. 17, 1908.

[9] Oldevig, J.: Therap. Monatsch., Nove

After the patients have had their individual attention as above described we stand them in line and let them go through a series of free standing respiratory and trunk exercises, such as arm-liftings and various simple bendings or twistings of the trunk, all of those, however, made in the rhythm of respiration, the patients being told to breathe in time with their movements.

This paper is not a dissertation on the comparative values of the different forms of treatment of ptosis of the abdominal organs, but a description of a few simple exercises which, whether used as an after-treatment following surgical intervention or following a prolonged resting in bed and feeding of a neurasthenic patient, seem to work toward the correction of ptosis. They have the advantage that they can be employed while the patient is still confined to the bed and consequently their beneficial effects start before the vicissitudes of the erect position are again encountered. They are also given for the purpose of calling attention to the fact that exercises cannot be given promiscuously. Particularly do we lay stress on the point that patients never should be allowed to hold their breath. As to the effects of the treatment our experience has been too short to enable us to give any reliable opinion.

I am indebted to Dr. Charles Spencer Williamson and Mr. Charles O. Carlstrom for their kind assistance in preparing the illustrations.

122 South Michigan Avenue.

THE CONSERVATIVE TREATMENT OF SALPINGITIS BY UTERINE AND TUBAL INJECTION

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In the light of experience we are enabled to practice more conservative and less radical or sacrificial surgery when treating infectious disease of the pelvic organs of women. Many of our gynecologic patients come to us after the acute symptoms of salpingitis have subsided, and every one knows that operations are comparatively safe at this time. This alone indicates the wisdom of conservative treatment of some kind. The almost universal success now attained in the surgical treatment of salpingitis by competent operators leaves little to be desired unless we appreciate the fact that patients are not always well afterward, even if their lives are not in danger. Of this part of the subject the last word has not been said. We have therefore ventured in many instances during the past two decades to attempt the complete sterilization of the uterine and tubal mucosa, and to leave at least one tube and ovary, or even part of a tube, and part of an ovary when the mucosa of the tube has not been hopelessly destroyed.

In selecting cases for conservative treatment, obviously the preference is given subacute cases rather than those that are acute or of long standing. The relatively higher mortality of operations must always be considered in treating the acute cases, while in very chronic cases, or those with great distention and long-continued suppuration within the tubes, the mucosa is no longer capable of physiologic action, and is in reality a pyogenic membrane. Therefore while the very large pus tubes may be reduced to nearly normal size or even absolute innocuousness by incision and drainage, in the Columbia Hospital clinic we do not select these for conservative treatment by irrigation. But we do not hesitate to attempt the sterilization of the more acute cases, as I shall show later on, and have not regretted doing so, as our results are even more satisfactory since the new method has been given a permanent place in our clinic. Some one may ask if our work is confined to the cases of gonorrheal salpingitis. An expression of opinion on this subject is made with hesitation owing to the uncertainty of diagnosis. The rule is to treat all cases conservatively unless the condition of the tubes when seen is absolutely hopeless for retention, provided no operation is undertaken on the adnexa of patients with streptococcic infection. The lesions due to this microbe when unexpectedly discovered should attract our attention and cause the abandonment of any radical operation if contemplated, and the autogenous vaccine treatment should be instituted. Pus tubes are caused by several other bacilli besides the diplococcus, for example, the *Bacillus coli,* staphylococcus and *B. pyocyaneus;* and even if the diagnosis is not certain, we can rely on the method now proposed quite as safely as for the gonorrheal form of salpingitis. The result of several years' experience has fully convinced us that many pus tubes can be rendered perfectly innocent and germ free, if not physiologically perfect—which we believe to be an object worthy of our careful consideration.

METHOD OF STERILIZING THE MUCOSA OF THE UTERUS AND FALLOPIAN TUBES

The cervix uteri is seized with tenaculum forceps, carefully dilated, and a blunt curet used if thought necessary. A 2-ounce glass syringe is selected with a conical point which will reach through the internal os uteri. An ounce of diluted tincture of iodin (1 part to 3 of alcohol) is drawn into the syringe and the uterine cavity is thoroughly distended by strong pressure on the handle of the piston. The pressure is continued for at least two minutes—a matter entirely under the control of the assistant who makes the application. The conical point of the syringe held firmly prevents the escape of the fluid until the operator is satisfied that the work has been well completed. The patient is now placed in the moderately high pelvis position, the abdomen opened and the pathologic conditions observed. If no visible infection of the ovaries is seen, they are invariably retained. The tube is separated and brought into the wound and, if to be retained, is carefully irrigated and distended with strong pressure of the piston from its distal extremity, whether the fluid has passed through the cornu or not.[1] Afterward the mutilated pavilion may be excised, if hopelessly injured during the enucleation.

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[10] Rosewater: Lancet-Clinic, Feb. 25, 1911.

[1] The same syringe and diluted tincture of iodin are used in treating the tube which were used to inject the uterus.

A phimosis operation may be done for the purpose of imitating a fimbriated extremity if the tube is resected. As a matter of routine we leave one tube and ovary whenever possible, and even a portion of either may be advantageously retained.

The application of iodin to the distended uterine cavity is of far more value and efficacy than is the common practice of packing with gauze tapes saturated with an antiseptic, or the use of a return flow catheter. In a large number of instances, especially in infected uteri, it will be possible to project some of the fluid through the cornua into the tubes. Some authorities, as Zweifel, think that in at least one out of four cases this is true. Aulhorn[2] believes that nearly every uterus and fallopian tube is easily reached by injection. He uses argentamin and does not open the abdomen. H. Hoffmann[3] gives a summary of the various methods of conservative treatment of the uterine adnexa, including the methods employed by Fleischmann, Lewith and others, who open the abdomen and practice a technic similar to ours.

REPORT OF TYPICAL CASES

CASE 1.—C. had gonorrheal salpingitis two weeks after infection, also acute appendicitis. There was a diffuse pelvic peritonitis; no attempt at "walling off." Operation consisted in removal of right tube and ovary with the appendix. The remaining tube was irrigated by solution of mercuric chlorid (1:1,000), which was forced through the uterus. The fluid appeared in form of a fine stream from the excised cornu and from the pavilion of the remaining tube in distinct drops. The patient had a narrow escape during the next twenty-four hours, but recovered, and nine years later had a child, and two years later a second child. Both children and mother are well at present.

CASE 2.—Mrs. — had salpingitis and had passed through the acute stage, coming to the hospital about the time the infection was subsiding. Distinct "masses" were located in the region of the ovary and tube on each side, and the diagnosis of double pyosalpinx was established. Tincture of iodin (25 per cent.) was forcibly injected through the slightly dilated cervix and the fallopian tubes. Observing the failure of the fluid to return after removing the nozzle of the syringe, we were not surprised to find at least one ounce of free tincture of iodin in the culdesac when the abdomen was opened. The right tube was still distended and stained with iodin, while the left was stained, but empty. The amount of fluid indicated a rupture of a hydrosalpinx or pyosalpinx on the left side. One-half of the right tube was removed; adhesions were separated; the ovaries brought into better position; the excess of the tincture of iodin sponged away, and the abdomen closed without drainage. The recovery was prompt and uneventful.

Our interns have charge of the hospital dispensary and are constantly on the lookout for results of our method of treatment. As yet, no unusual results have been reported.

Finally, although we have conclusively ascertained that it is possible to reach the tube in a large number of cases by intra-uterine injection, yet we rely on irrigation from the distal extremity in addition to the effort to force the solution through the cornua. Actual tests show that it is not always possible to force fluids through the cornua, but our experiments appear to show that the infected mucosa does not close the cornua and resist the entrance of fluids so successfully as does the normal or uninfected membrane.

CONDITION OF PATIENTS IMMEDIATELY AFTER OPERATION

I am unable to report any unusual pain, shock or severe reaction following these conservative operations. On the contrary, less pain is observed as a rule when the adnexa are not removed, and in many cases I observe that the only discomfort is due to the incision. In only one instance have I seen a delay in the cure. This case occurred a year ago, and I was unable to explain a continuation of temperature elevation for nearly three weeks. The patient had no pain; there was no unusual induration about the uterus, and she finally recovered fully and has remained well.

PERMANENT RESULTS

Obviously a considerable period of time may be expected to elapse before these patients regain complete health and a perfectly normal or physiologic condition of their pelvic organs. Many cases are reported in the literature showing a number of pregnancies in patients having had some form of conservative operation on their pelvic organs. Our routine use of iodin in the manner now described began soon after we adopted it in skin sterilization, since which time we are not able to report success so far as pregnancy is concerned. The practice of injection of the uterus and tubes by strong pressure has been used from time to time since the date of the first case reported in this paper, but we used solutions of mercuric chlorid, methylene blue, boric acid, etc., instead of iodin, as we do at the present time.

SOME PRACTICAL PSYCHOTHERAPY

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Mental capital or positive suggestion is that renewed courage and hope which the old-time family doctor gave to his patients and which so endeared him to them. His patients said that they "actually felt better the minute he entered the room," and they undoubtedly did.

The wife of a prominent official in a New England city was afflicted with carcinoma of the cervix uteri and after some persuasion submitted to operation. For about one year she remained well, but was then afflicted with metastatic growths in the pelvis and soon became hopelessly cachectic, exhausted and bedridden. Her husband came at last to the family physician and said that he felt that his wife was very near her end, and that he wanted everything tried, no matter how heroic; but above all he wanted her demise as painless and comfortable as possible if no real help could be given her. The physician used the ferments, injections of ascitic fluid from other cancer cases, the *x*-ray and even *Streptococcus erysipelatis* (which, by the way, refused to grow), all to no avail. It was then that the idea of positive suggestion occurred to him. He went to her and told her that the whole previous treatment had been erroneous, that the diagnosis of cancer was a mistake and that now since her trouble was known she would be treated properly and would immediately recover. These ideas were strongly impressed on her mind by this physician, in whom she had every confidence. The result, while it lasted, was little short of marvelous. She began to eat and to take an interest in her surroundings and in two days was riding out in the open air with a nurse. This condition of affairs continu [illegible] three [illegible] the end of which time she collapsed and died suddenly. She had been under the influence of analgesic drugs during this time. Now to what was the three weeks' respite due and was this method of giving mental capital justified? Each man must answer this for himself and he who neglects to mollify the sting of death must answer to his own conscience if indeed he has one.

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[2] Aulhorn, E.: Arch. f. Gynäk., 1910, xc, 213.

[3] Hoffmann, H.: Mitt. a. d. Hamb. Staatskrankenanst., 1910, xi, 87.

Psychanalysis seeks to look backward into the patient's life for an event or events, sexual or otherwise, which may be at the bottom of a given neurosis, which may have been coincident with the starting of the aberration, or which may have occurred at the parting of the ways of the normal and abnormal.

I believe that there are cases in which these psychic abscesses should not be opened and also that there are others in which "open confession is good for the soul." Each physician must judge his case and diagnose it accurately; if he does not he will sooner or later cast aside a valuable therapeutic instrument as not only worthless but dangerous. In functional, so-called, neurasthenias a world of good may be accomplished by one in whom the patient has faith and confidence. The operator must be a man thoroughly alive to the problems of life, its heartaches, its woes and its vagaries; and above all he must be able to paint its beauties and nobler aspects to the patient in that patient's more suggestible moments. Every one is more approachable and more amenable to suggestion at certain times than at others, and it is at these times that the work must be done. Successful palliative measures may be used in cases of fixed psychoses. I had under my care for one year a Mr. F., a paranoiac of many years' standing. He resided in a small town and was called "queer" by his neighbors. I discovered that he was the possessor of a well-developed system of persecutory ideas regarding a religious sect in his immediate neighborhood. He experienced great joy and relief when he could unload his imaginary troubles on me and have me take them down gravely in a notebook and promise to rectify and correct each and every one of them. He believed so firmly that I would do this that he went successfully about his business for one month at a time, when he would come back with new ideas which I handled as before. Tests showed that he was harmless and would not react to his delusions. He had five children and a wife to support; so considering all details, confinement was hardly to be thought of. This type of case is seldom or never treated in any other way than to try to reason the patient out of these delusions, which of course is useless. Credit must be given to intelligent cooperation on the part of this man's wife, who aided me greatly in my treatment of the case. Her knowledge of the true nature of the trouble made a happy home out of a hitherto somewhat turbulent one. The general condition of this man has steadily improved in the year he has been under treatment, although the delusions are as fixed as ever. He now pays but little attention to them. He has had attacks of auto-intoxication during which he has suffered more from his psychosis. He has learned to avoid constipation and all conditions predisposing to it. I doubt not that the study of internal secretions and hormones will add something to our armamentarium for these cases in the future.

When opportunity offers I intend to carry out some experiments on neurotic and certain insane patients with the *Bacillus bulgaricus*. I have done this in a few cases with apparently good results; but these results could easily have been remissions in the course of the disease and my cases were too few to be of value or to be worth reporting.

Two condemned murderers recently died happy under the influence of Christian Science. Have we all done as much for our own hopeless cases? You may say that this duty properly belongs to the clergy. It does; but there are many whom we and we alone can so stimulate mentally as to render true that saying of a learned physician that "we should leave life as we entered it, painlessly." Just as anoci-association enables one to take an anesthetic fearlessly and easily, so should it in a slightly altered form combined with our own vital forces and suggestions enable our chronic incurables to extract the most out of their last days on earth. Not to death itself belongs terror, but to the fancies attached to it. If the mind be carried away from these fancies to the simple fact itself, death will lose most of its gloom in the eyes of the doomed. This applies in those cases in which, for legal or other reasons, the patient must be informed of the inevitable.

I wish at this point to speak of a common phobia which is common in physically sound and otherwise mentally sound persons—the fear of death. I have found this to be the primary subjective symptom in many neurotic persons and, more to the point at issue, that in most cases they improved when this primary phobia was dispelled by competent argument, religious conversion or systematic attention to the emunctories. Like the fear of ghosts and dark places the morbid fear of death is frequently implanted in the childish mind by unthinking older persons; therefore we ought never depict death and the grave, either to ourselves or to others, especially to children, in more somber colors than in reality belong to either. Gloomy images of this kind serve only to disturb the imagination and exercise a baneful influence over the impressionable mind of the child. These influences are usually permanent, for we well know that many otherwise level-headed adults are somewhat disturbed by stories of the supernatural, and these persons may step from dark cellars at night with more haste than grace. Psychanalysis usually discloses in these cases some specific incident of a startling nature in the developmental period of life. When a person's vitality is lowered by transient illness or business reverses, his old phobia may come to the surface with sufficient force to precipitate an attack of depression from which he never fully recovers. In other words, a permanent mark is left on the brain, and future attacks of depression are more apt to appear and involutional melancholia is apt to occur. Hence the need for prophylaxis in childhood on the part of the child's parents.

An instinctive love of life has been intimately interwoven with our whole being, and this has resulted in a general revolt of our nature against dissolution in all its forms; were it not for this natural shrinking from death, the earth would ere this be a depopulated desert. Man errs grossly when he allows his instinctive love of life to degenerate into a tormenting passion for life, which leads him to entertain an unreasonable fear of death, and to place an exaggerated value on existence on this earth.

In some cases it is a pathologic state of the physical being which causes one to surround death with imaginary shadowy terrors; in others a gloomy temperament—a melancholic diathesis permitted to gain ground untreated—harasses them into a continuous blind dread of dissolution. Not the natural metamorphosis which takes place in death, but the unnatural images of it which float before the imagination are calculated to awaken terror; man himself has created these for his own torment.

This phobia is in some cases due to nothing more remote than a sedentary existence with too much time for reflection, and is frequently seen in unmarried persons who are too much alone and who have no absorbing hobby. Exercise, work, amusement and congenial companionship will do more here than the best consolatory argument and suggestion.

The dying are as little conscious of the transition from life to death as the weary are aware of the transition from the waking to the sleeping state. Many people have awaited, with full consciousness, the moment of dissolution, and have been aware of it in advance, and yet they fell asleep smiling and without fear. Their imagination had not been previously excited. We have all seen the hippocratic facies and the twitch of the final struggle, yet this change observed by the spectator at the bedside is seen not by the departing one nor is he in any way conscious of it. Illness may be painful, but its cessation never. These thoughts and arguments have been of great service and satisfaction to conscientious medical men who have treated sick persons as well as diseases. The physician should not allow science to tear him away from his Maker, and he should know that the feeling of his older patients, at least, is little short of a love kindred to the parental love, and that in this he has a powerful weapon to aid his patient while there is hope of life and after.

O Grave! where is thy victory?
O Death! where is thy sting?

EPIDEMIC CEREBROSPINAL MENINGITIS

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The report which follows is based on a series of 230 cases treated at the Kansas City General Hospital during the epidemic from Jan. 1 to June 1, 1912. The statistics are compiled from the observations and bedside notes made by the attending physicians and interns of the hospital. I believe the data to be accurate, and the whole report a reliable picture of the epidemic in its clinical features.

TABLE 1.—SUMMARY OF CLINICAL RECORDS MADE IN TWO HUNDRED AND THIRTY CASES OF EPIDEMIC CEREBROSPINAL MENINGITIS

	No. Cases	Per Cent.	Explanatory
Age (in years):			
2 and under	17	7.6	
2 to 10	32	14.3	
10 to 18	34	15.2	
18 to 35	93	41.5	
35 to 50	37	16.5	
Over 50	11	4.9	
No age recorded	6	...	
Sex:			
Male	169	73.5	
Female	61	26.5	
Onset:			
Sudden	169	83.25	
Gradual	13	6.5	
Medium	21	10.25	
Temperature: *			
High	77	33.5	
Moderate	114	50	
Low	43	18.7	
Variable	19	8.3	
Pulse:			
Rapid	85	37	
Slow	126	55	
Variable	21	9	
Mentality:			
Cloudy	60	26	
Delirium	123	53.5	
Unconscious	152	66.1	
Early	129	56.1	
Medium	12	5.2	
Late	11	4.8	
Headache:			
Present	180	84.1	
Doubtful	34	15.9	
Rigid neck:			
Early	179	84	
Developed	27	12.2	
Absent	7	3.3	
Kernig's sign:			
Early	147	77.3	
Developed	26	13.6	
Absent	17	9.1	
Convulsions	48	20.9	In two cases the convulsions were jacksonian.
Early	28	12.2	
Developed	20	8.7	
Vomiting	175	76	
Petechiae	49	21.3	Increased in frequency in latter part of epidemic.
Localizing signs:			
Strabismus	59	25.6	Two-thirds were divergent. Frequently transitory.
Early	39	....	
Developed	20	....	
Deafness	18	7.8	
Early	15	....	
Developed	3	....	
Nystagmus	5	2.2	
Paralysis	7	3	
Early	5	....	
Developed	2	....	
Pupils:			
Unequal	73	31.7	
Dilated	30	13	
Other symptoms:			
Herpes	138	60	On dorsum of hand in two cases; on ear in three cases.
Hyperesthesia	89	39	
Epistaxis	11	4.8	
Photophobia	7	3	
Retention of urine	39	17	
Cheyne-Stokes resp.	44	19	
Leukocytes: †			
Low (under 15,000)	8	15.7	
Medium (15,000 to 25,000).	27	53	
High (over 25,000)	16	31.3	
Spinal fluid: ‡			
Cloudy	207	94	
Clear	13	6	Very early cases.
Organisms:			
Many	129	58.6	
Few	77	35	
None on first puncture.	4	1.8	Meningococci found in subsequent punctures.
Absent	5	2.3	
Course:			
Av. No. days duration.	12.8	....	
Recurrences	13	5.6	One case with four recurrences.
Complications:			
Arthritis	18	7.8	Recovery complete in all cases.
Deafness	16	7	Temporary in four; unilateral in one.
Opisthotonos	14	6	
Dysphagia	4	1.7	Due to extreme retraction.
Aphagia	9	3.9	Due to extreme retraction.
Pneumonia	10	4.4	Pneumococci in spinal fluid in two cases.
Hydrocephalus	11	4.8	
Respiratory and cardiac paralysis.	10	4.4	Paralysis of resp. first in nine cases.
Conjunctivitis	7	3	All were purulent.
Cystitis	6	2.6	Majority due to repeated catheterization.
Paraplegia and hemiplegia.	6	2.6	Recovery complete in a few days.
Epididymitis	4	1.7	
Neuritis	4	1.7	
Decubitus	4	1.7	
Iritis	3	1.3	
Insanity	4	1.7	
Delirium tremens	3	1.3	
Bronchitis and laryngitis.	4	1.7	

Also two cases each of hysteria, tympanitis, persistent vomiting and pneumococcic meningitis, and one case each of otitis media, retinitis, cervical adenitis and furunculosis.

* "High" = 102.5 F. and over; "moderate" = 100 to 102.5 F.; "low" = less than 100 F.; "variable" = when frequent and sudden changes in temperature. Some cases are recorded as having "high," "low" and "variable" temperature.

† A count was made in only fifty-one cases. "Low" = below 15,000; "medium" = 15,000 to 25,000; "high" = over 25,000.

‡ "Clear" = clear at first puncture, subsequent fluid being cloudy; "organisms" = meningococci; "none first" = no organisms found in fluid withdrawn at first puncture but demonstrated in subsequent fluids withdrawn; "absent" = in five cases no meningococci were demonstrated, first fluid having been destroyed before examination could be made and subsequent examinations being negative, or patient died before another puncture was made.

It will be noticed that no attempt has been made to treat the etiology or epidemiology in this report. It was impossible to obtain sufficient data at the hospital to draw any definite conclusions. The pathology also has been disregarded, except the statements about the spinal fluid and the blood.

In regard to the statistics given, a few supplementary remarks may be of interest and add to the value of the figures.

The onset of the most prevalent clinical type was as follows: The patient in apparent good health is taken suddenly with a severe chill accompanied by an intense headache which persists and is most frequently frontal. Vomiting occurs during the first twelve hours, but seldom persists after twenty-four hours from the onset. Mental confusion or depression comes on early, often in the first hour, and in some cases is apparently the first symptom—this symptom varies from a slight drowsiness or stupor to extreme delirium or deepest coma. Fever usually follows the chill, but this is by no means constant, for the temperature may be normal or even subnormal for from twenty-four to forty-eight hours. Great variations were noted in the temperature, but in 50 per cent. of the cases it ranged from 100 to 102.5 F. No characteristic fever curve was present. Many sudden drops and sudden rises in temperature without any apparent cause made it impossible to draw definite conclusions regarding temperature. One patient who had been running a temperature of 102 or 103 for two days suddenly showed a drop to 96, the pulse at the same time going from 80 to 56. The temperature and pulse continued at this low mark for eighteen hours, when suddenly the temperature came up to 103 and the pulse to 90. No apparent change was noted in the condition of the patient during this time.

Muscular pains and rigidities are complained of early; the neck muscles and all of the back muscles become rigid and painful. Cramps in the muscles of the legs, especially the calf muscles, were quite commonly among the first symptoms. Rigidity of the neck muscles was practically universal, being absent in only seven cases; but it was not always an early feature: in twenty-seven cases it developed after the patient came to the hospital. The Kernig sign, though present early in over 77 per cent. of the cases, was entirely absent in seventeen cases and developed after the patient was received in twenty-six cases.

The pulse, like the temperature, was a variable feature, but was slow during the early stages in the majority of cases. A rapid pulse from the onset was rarely found. Extremely low pulse-rate was noted in some cases.

Concerning other symptoms there were some interesting features that could not be brought out in the table.

Convulsions occurred much more frequently in children than in adults as an early symptom, and were seen in all degrees of severity, from slight muscular twitchings to severe and generalized convulsive seizures. In two cases they were markedly jacksonian in character, starting in one group of muscles and extending to other groups, the cycle being the same each time the convulsions occurred.

Petechiae were more frequently seen during the latter part of the epidemic than at first, and were more apt to be present in the more severe cases.

Herpes was commonly seen, usually around the mouth and nose but in unusual localities in some cases. Three patients had large crops of herpes on the lobe of the ear, and two on the dorsum of the hand.

The occurrence of a serum rash was not recorded in the chart but was commonly seen, appearing from five to eight days after serum had been used. The rash was an urticaria and often gave rise to symptoms which simulated a reinfection of the meninges, the fever rising after being normal for several days, and severe headache and general malaise being complained of. It usually disappeared in from forty-eight to seventy-two hours.

Typical Cheyne-Stokes respiration occurred in forty-four cases, usually when the patient was nearing the end. Other irregular forms of breathing were also noted. Respiratory failure from which the patient was seldom revived occurred in several cases; the heart continued to beat strongly and rhythmically for some time. In one case artificial respiration was kept up for fifty minutes, the heart beating strongly until within a few minutes of the end. Five patients recovered from respiratory paralysis with the aid of artificial respiration. Cardiac paralysis alone was noticed in two cases.

Retention of urine was an aggravating feature and quite common; thirty-nine patients were thus afflicted, and the necessity of catheterization was probably the cause of the cystitis which developed in several cases. Catheterization was sometimes necessary over a period of several weeks.

The mortality was as follows: total mortality, 52.6 per cent.; not counting patients in the hospital less than twenty-four hours, 46.5 per cent.; eliminating also those aged 50 years and over, and 2 years and under, 41.7 per cent.

TABLE 2.—INFLUENCE OF AGE ON MORTALITY

Age (Years)	Total No. Cases	Fatal Cases	
		No.	Per Cent.
2 and under.....	17	11	64.7
2 to 10.........	32	16	50.0
10 to 18.........	34	12	35.3
18 to 35.........	93	45	48.4
35 to 50.........	35	17	48.6
50 and over......	13	13	100.0
No age recorded...	6	6	.....

A number of patients died within a few minutes or a few hours after entering the hospital. It would obviously not be a fair judgment of the efficiency of the serum treatment to count these cases. It will also be noted from Table 2 that the extremes of life stood a very slim chance, so I have given the percentage after eliminating these cases.

It should also be stated that on several occasions serum was not available for days at a time, and patients died who might have been saved could they have received the serum in time.

Table 2 illustrates the influence of age on mortality.

Concerning treatment I shall not go into detail. Antimeningococcic serum was used in all cases when serum was to be had. Six patients received no serum and several others only a small amount on account of the scarcity of the serum during the last of March and the first of April. Normal horse-serum was used in a few cases, normal salt solution in others and a weak phenol solution in a few cases during this period. These substitutes seemed to have no influence on the disease. Improvement was seen in some from relief of pressure by withdrawal of spinal fluid, but was only temporary. The patients thus treated either died or had a very protracted course. Aside from the serum the treatment was symptomatic and will not be dwelt on.

The method of administering serum was practically the same in all cases, modified of course by the age and general condition of the patient. An initial dose of from 30 to 45 c.c. was usually given to adult patients as soon as they reached the hospital; a second injection of from 20 to 30 c.c. was given from twelve to eighteen hours later; and subsequently one or two doses of from 20 to 30 c.c. and a dose or two of from 10 to 15 c.c. at intervals of twenty-four hours. The continuance of the serum treatment depended, of course, on whether or not meningococci were still present in the spinal fluid. In favorable cases there was a marked diminution in the number of organisms after the first injection of serum and usually an absence of organisms after the second or third injection; but we noticed that we were much less apt to have a recurrence of infection if one or two injections of serum were made after the spinal fluid showed no organisms present. When symptoms reappeared and organisms again were found in the spinal fluid, the serum was administered again as when the patient first came in. Some patients received serum from time to time over periods of weeks before the infection finally subsided.

Epidemics differ so in their severity that it is not possible to state to what extent the serum treatment influenced the mortality in this epidemic. Nevertheless I am convinced, first, that the course of the disease was materially shortened in those cases that showed any response to treatment; second, that complications and sequelae were much less frequent, and third, that the remarkable results obtained in many cases seen early in the course of the disease were due to the specific action of the serum on the infection.

The statistics here recorded were gathered under the direction of Drs. Franklin E. Murphy, H. D. Hamilton, J. L. Robinson, F. M. Lowe, R. T. Sloan, C. C. Conover and S. P. Child of the attending staff; and I was assisted in accumulating and preparing these data by Drs. H. J. Schott, F. W. Aves, F. R. Teachenor, B. W. Turner, R. W. Spicer, E. V. Eyman, Rushton, R. C. Davis, Heatley and R. M. Mendelsohn of the house staff.

THE DISAPPEARANCE OF SUGAR AFTER THE REMOVAL OF TUMORS IN DIABETICS

MORRIS MANGES, M.D.
NEW YORK

In the discussion of Joslin's paper,[1] Miller called attention to a fact which is of great importance in the prognosis of diabetic patients who may require operations for the removal of tumors, and which may also have some value in the solution of the much-debated problems of the etiology of diabetes. I refer to the disappearance of sugar after the removal of tumors.

Miller's case is as follows:

A woman passed 50 gm. of sugar in spite of being on a rigid diet. She had very severe uterine hemorrhages, and as a result was markedly anemic. A hysterectomy was performed. It was found that a carcinoma had developed on an old fibroid tumor. Several months later the patient returned, and it was found that she was entirely free from sugar. She is still well, in spite of taking an unlimited diet.

In closing the discussion Joslin reported a similar case. The patient had a severe attack of diabetes; the glycosuria occurred in connection with a fibroid tumor of the uterus. When the fibroid was removed the sugar disappeared.

I wish to report two similar cases from my own practice, in both of which the patients were severe diabetics with advanced prostatic disease.

In the first case, which occurred ten years ago, the patient was a man of 62 years with a long-standing diabetes with prostatic bladder symptoms of several years' duration. On account of his severe diabetes—the daily amount of sugar ranging from 50 to 150 gm., and a marked acidosis being present—he was considered a bad surgical risk, the more so as he had a very vulnerable skin. Finally the condition of urinary sepsis became so urgent that the drainage of the bladder and the removal of the prostate gland could no longer be delayed. The operation was performed in two stages by Dr. Lilienthal, and to every one's surprise was very well borne. Great relief was afforded to the patient, but what was especially gratifying was the marked improvement in the diabetes. For a long time the sugar excretion remained below 20 gm. and the acidosis disappeared. This was all the more remarkable as the patient had a bad family history of diabetes, and all attempts to render his sugar less had not been successful to any marked extent. About a year and a half after the prostatectomy the diabetes again took on a severe form and he finally succumbed to it.

The second case first came under observation five years ago. The patient was a man, who was then 70 years old and who had been under the care of Dr. Chetwood for a long-standing prostatic disease and diabetes. For a long time the sugar ranged between 3 and 5 per cent. in spite of dieting, and there was a marked acidosis. This patient too was considered a bad surgical risk on account of his age and the diabetes. In his case also the development of a bad urinary sepsis left no choice. The removal of the prostate and several large stones was a difficult operation, and in spite of all precautions the convalescence was protracted. Nevertheless the patient made a complete recovery, and he never had any further trouble from his bladder. After the operation the sugar disappeared completely, and it never returned in spite of the most liberal diet. The sugar did not reappear even when he developed a pus kidney from which he died a few weeks ago after a short illness, as he refused to be operated on.

The results in these two cases offer a striking corroboration of the experience of Miller and Joslin; they seem to represent more than a coincidence, since in all the cases, four in number, the diabetes was a severe one with marked acidosis. In three of them the removal of a tumor was followed by a complete disappearance of the glycosuria, while in the fourth case there was a marked improvement for a year and a half, a result which was all the more remarkable since all efforts on my part to reduce the sugar had been unsuccessful for a long time, as the patient was an exceedingly neurotic man with a bad diabetic family history, and the suffering from his bladder and prostate had been most intense.

That diabetes can be cured even without dietetic treatment is a well-known fact even though such cases are quite uncommon. Naunyn, in his masterly treatise,[2] discusses this possibility, and shows its infrequency. It is most likely to occur when the diabetes has followed a cerebral trauma or in syphilitic diabetes. He also refers to cases of cured diabetes in which a curable organic disease cannot be diagnosticated, these cases being usually acute diabetes. He also notes the curious fact that a large proportion of the latter cases occur among children, who as a rule run such a severe and fatal course. He also warns against considering as cures the not infrequent cases of diabetes in [illegible] persons in whom the process si [illegible] omes lat [illegible] lon [illegible] r shorter period. [illegible] ion is [illegible] en all, cures of diabetes are very rare, and not known to have occurred after the disease has lasted any length of time. It is only among the cases of traumatic diabetes in which a few cures occur, where the condition has not lasted more than three months."

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[1] Joslin, Elliott P.: My Experience with Diabetic Patients Living Ten or More Years, THE JOURNAL A. M. A., Sept. 21, 1912, part 1, p. 933.

[2] Naunyn: Der [illegible] ns, 1

Von Noorden[3] also refers to the marked improvement or cure of diabetes in cases which develop chronic granular nephritis; these cases are usually associated with marked hypertension and cardiac hypertrophy. In these patients von Noorden has found that the blood is richer in epinephrin. It is to the latter that he attributes the improvement in the diabetes, for the epinephrin stimulates the liver and causes the pancreas to be overactive, and also possibly produces hypertrophy of the still intact islands of Langerhans. In such cases there may be a marked hyperglycemia without glycosuria. Von Noorden, however, confesses that these are merely theoretical considerations which still require confirmation. The fact, however, remains, which all clinicians know, that the development of a chronic nephritis is often associated with the complete and permanent disappearance of sugar.

None of these considerations, however, explains the cases under discussion, in which the disappearance of the sugar is sudden and complete after the removal of tumors which apparently have no etiologic relation in the causation of the diabetes. Curiously enough, in all four cases these tumors were situated in the genital sphere—two prostate glands and two uterine fibromas. In both of the prostatic cases which were under my observation the diabetes existed long before the prostatic disease appeared. I know nothing of the duration of the uterine fibromas, since neither Miller nor Joslin gives data on this point. Neither do these two authors refer to any renal disease in their cases; as no reference to this possibility is made, it is fair to assume that it did not exist. Renal disease certainly played no rôle in either of my prostatic cases, since the nephritis which was present in both cases was of the common type which is so often seen in elderly persons. In neither was there any hypertension, which von Noorden postulates for the cure of diabetes by the development of nephritis.

Whether there was any hyperglycemia in these four cases, as suggested by von Noorden, was unfortunately not noted in any of the cases. It is improbable that it existed, for in three of the patients even the most liberal diets failed to produce any glycosuria. This is most strikingly shown in the second of my cases, the patient remaining absolutely sugar-free for five years in spite of full diets of every kind. Even when he developed high fever and suppuration the sugar did not appear at any time; and he died sugar-free.

In the present state of our knowledge of the etiology of diabetes it is idle to speculate as to the explanation of the disappearance of sugar after the removal of tumors, as the cases which have thus far been reported are far too few to permit the drawing of any conclusions. The most plausible possibility is that the operation removes some nervous or toxic irritant which in some way, at present unknown, disturbed the carbohydrate metabolism.

Of far more importance than these etiologic speculations are the practical conclusions to be drawn from these four cases regarding the prognosis of operations on severe diabetics. These patients have always been a dread touch-me-not for the surgeon, with the result that many a patient has been allowed to die unoperated on. The outcome in these four cases would show that the prognosis from the operative point of view is far better than is generally believed; it should also make us bolder than we have hitherto been in advising operation on diabetics with tumors. We may even go further in hoping that operation may even have beneficial effects on the diabetes itself, if the excellent results in these four cases are confirmed by other observers.

In general, it may be said that the general practitioner and the surgeon have too much fear of acidosis; they have not yet learned to differentiate the cases in which acidosis is a menacing symptom. When diacetic acid or oxybutyric acid tests are negative there is no danger, no matter how intense the acetone reactions may be. When, however, diacetic or oxybutyric acid reactions are present, the prognosis should be more guarded. In such cases the physiologic chemist can give definite information as to whether coma is impending or not, by the determination of the relations of the ammonia nitrogen to the total nitrogen excretion of the urine. When this quotient is low and within the normal limits, the immediate prognosis is a good one, and the danger from grave acidosis or coma after operation is not great enough to prevent the performance of any operation which may be necessary.

72 East Seventy-Ninth Street.

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[3] Von Noorden: New Aspects of Diabetes, 1912, p. 51.

BURNAM'S TEST FOR FORMALDEHYD IN THE URINE

A STUDY OF TWO HUNDRED CASES

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PORTSMOUTH, N. H.

Dr. L'Esperance of Boston published an article recently on the excretion of formaldehyd in the urine of patients taking hexamethylenamin (urotropin), giving details of Burnam's test and the results of some experiments made at the genito-urinary department of the Massachusetts General Hospital.[1]

Having developed an interest in the test after reading the article, and having available men on whom tests could be made, I used the test on 200 men, and for the purpose of experiment divided the cases into two groups of 100 men each, varying the dosage and time of administration of hexamethylenamin in each group.

The results of these tests are so interesting, and so different in many respects from those of Dr. L'Esperance, that it seems advisable to publish the facts and conclusions in connection with the tests.

Burnam's test consists of a color reaction in the urine of persons who have taken hexamethylenamin, and is reported to be a simple and accurate test for the presence of formaldehyd. In the L'Esperance article the technic is described as follows:

> To about 10 c.c. of suspected urine in a test-tube at body temperature is added:
>
> 1. Of solution phenylhydrazin and hydrochloric acid 0.5 per cent., 3 drops.
> 2. Of solution sodium nitroprussid 5 per cent., 3 drops.
> 3. Of saturated solution sodium hydrate, a few drops poured along the side of the test-tube.

As this latter solution diffuses throughout the urine in the tube, if formaldehyd is present (or the urine is positive), a deep purplish-black color is seen quickly changing to dark green, gradually getting of a lighter shade of the same color, to, finally, pale yellow.

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[1] L'Esperance, O. R. T.: Excretion of Formaldehyd by the Kidneys of Patients Taking Hexamethylenamin; A Study of Burnam's Test, Boston Med. and Surg. Jour., Oct. 24, 1912, p. 577.

With a urine that does not contain formaldehyd (or is negative) the color reaction is as follows: As the saturated solution of sodium hydrate diffuses through the urine in the tube, a reddish color is seen gradually turning to light yellow. . .

The time of the appearance of the drug in the urine is about one hour after ingestion by the mouth; the earliest was thirty minutes, and the average was at about the end of one hour. The continuation of the excretion extended for from four and one-half to six hours, with maximum at about two hours.

In my experiments I followed the technic given above, and, in order to eliminate any inconsistency possible when two or more persons are observing the same color phenomena, the 200 tests were made by the same assistant. The tests were all made on men who were not under treatment for genito-urinary disease, and who had not previously received hexamethylenamin. The urines were examined by daylight in a well-lighted laboratory.

The first group of men (100) were given 10 grains of hexamethylenamin at 6 p. m. and a second dose at 6:30 a. m. the following morning. The urines were examined at the end of five hours.

The second group of men (100) were given 20 grains of hexamethylenamin at 6:30 a. m. and the urines were examined at the end of two hours.

The reaction in every case took place immediately but the colors produced, both in the positive and the negative urines, varied slightly from those reported by L'Esperance, and, while it is believed that the average practitioner would have little difficulty in recognizing the reaction, my experience with 200 tests convinces me that the "deep purplish-black" spoken of as the first change in a positive urine is not constant, and that departure from this color rule is not infrequent. In many of the tests the color was not deep purplish-black but purple, changing to a green (not dark green) and finally to pale yellow.

A rather constant diagnostic point in the positive urines was the striking rapidity of the color formation and its peculiar method of diffusion through the upper strata of the fluid. Immediately on the addition of the sodium hydrate solution the purple color appeared in flashes or jets, as it were, down through the column of liquid in the test-tube, forming irregular lines and figures of purple, then blending and coloring the entire liquid, the diffusion of color occurring in the lower strata first. Following this spectacular display of color figures and diffusion came the green hue which remained for some minutes.

In the negative urines the test was found to agree with those performed at the Massachusetts General Hospital with the exception that the end reaction was considered to be a display of greenish-yellow rather than light yellow.

Of the first group of 100 men 42 per cent. of the urines were positive. All but two of the urines in this group gave an acid reaction; those two were alkaline.

Of the second group of 100 men 53 per cent. of the urines were positive. In this group two urines were alkaline and one neutral. The rest were acid.

A total percentage of 47.5 was the result of the 200 tests, or about 5 per cent. less than was found in the L'Esperance tests.

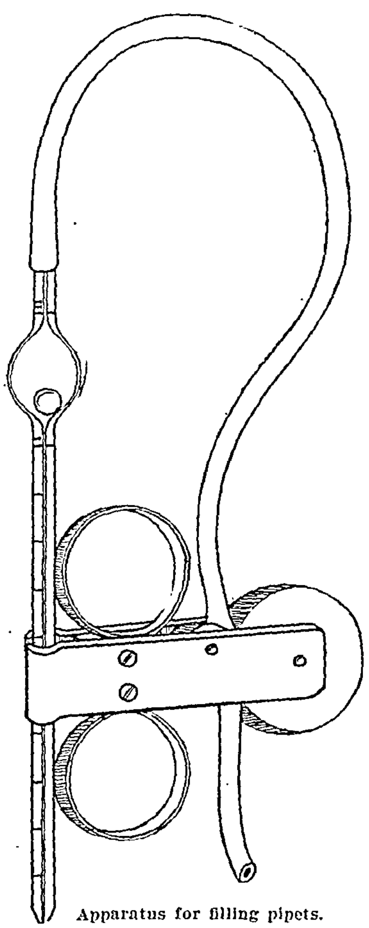
No symptoms were reported from men taking the hexamethylenamin.

72 East Seventy-Ninth Street.

A NEW APPARATUS FOR FILLING PIPETS

Robert D. Maddox, M.D., Cincinnati

There is a demand for a more simple and efficient method of filling pipets, especially those used in blood work, where accuracy of dilution is essential. Several recent instruments have not been satisfactory, chiefly because the production of the vacuum necessary to raise the fluid in the capillary tube depends on some form of piston or other sliding mechanism, which either complicates the apparatus or does not permit of sufficiently delicate use. To overcome these objections I have made an apparatus that is simple, inexpensive and highly efficient, as with ordinarily careful manipulation it will give accurate results. In this apparatus a well-established principle is used: a vacuum is produced by the compression of a rubber tube or hose, one end of which is attached to the pipet, between two movable rollers, so that the tubing may be moved in either direction between the rollers as they are revolved, just as clothes pass through an ordinary wringer. When the rollers are turned so as to increase the length of the tubing between the rollers and the pipet, a vacuum is produced in the tubing and the fluid is drawn into the pipet, slowly or rapidly, depending on the speed with which the rollers are turned. When the direction of the rollers is reversed and the amount of tubing between the rollers and the pipet is decreased, a pressure is produced and the contents of the pipet are expelled. A piece of metal is bent to form a rectangle about 2 inches long, ¼ inch wide and ½ inch deep, making a frame in which are mounted midway two rollers, 5/16 inch in length by ½ inch in diameter, the space between the rollers being about 1/16 inch.



Apparatus for filling pipets.

In the first form that was made the spindle of one of the rollers was carried beyond the side of the frame for 1 inch, and a 1-inch manipulating wheel attached to the end.

In the second form (see illustration), the size of the outer roller was increased to 1 inch, the roller placed so as to project beyond the edge of the frame, and its surface slightly roughened so that it could be moved by the thumb and thus serve as a manipulating wheel. In both forms the end of the frame is shaped so as to form a spring-clip to hold the pipet, an exceedingly useful feature, as the instrument and pipet may be held and manipulated with one hand, thus leaving the other hand free. Finger-rings attached above and below the frame between the roller and the pipet serve to facilitate this use. About 8 inches of 3 mm. rubber tubing is the convenient amount to use on blood pipets, but to pass about 3 inches of tubing between the rollers will draw the blood up to the first mark, and fill the mixing chamber at the top of the pipet with the diluting fluid up to the second mark.

4 West Seventh Avenue.

AN ARGYLL ROBERTSON PUPIL BECOMING NORMAL AFTER MERCURY AND SALVARSAN

J. J. Zaun, M.D., St. Paul, Minn.

H. W., aged 32, married eight years, whose child, aged 3, and wife show no evidence of syphilitic lesions, had gonorrhea years ago, but does not know of ever having had a chancre or initial lesion.

I saw him July 30, 1912. He consulted his physician then on account of difficulty in walking and cramps in the calves of his legs. Examination at that time revealed complete loss of patellar reflexes; Argyll Robertson pupil in both eyes (no reaction to light); cramps in the calves; gastric and intestinal crises; marked Romberg sign; testicular reflex increased so that stroking the skin on the inside of thigh caused the testicle to be drawn up into the canal; muscle sense disturbed; gait markedly affected; Wassermann reaction positive.

The treatment consisted of mercurial inunctions and potassium iodid until August 20. He was then given 0.6 gm. of salvarsan in the right gluteal region. A marked induration at the site of the injection has persisted up to the present (December 20). November 4 he was given an intragluteal injection of salvarsan, 0.7 gm., on the left side. This was followed by an induration which remains now, but is not so marked as that following the first injection.

December 9: Examination shows: patellar reflex unchanged; Argyll Robertson pupil gone (both eyes show an immediate response to light). The same condition exists now (December 20). The Romberg sign is not nearly so marked as before treatment. While formerly the patient had to steady himself, especially in washing his face, he now experiences very little difficulty, and the gait is much improved. There has been a gain in weight of 5 pounds. He feels better than he has in years and is surer of his movements.

The restoration of the pupillary reflex I take as justification for reporting in detail a case of tabes dorsalis, as this is the first time I have seen or read of this happening after the administration of mercury or salvarsan.

912 Laurel Avenue.

SPORADIC CEREBROSPINAL MENINGITIS; RECOVERY

George R. Green, M.D., Muncie, Ind.

Nov. 3, 1912, I saw in consultation with Dr. F. E. Hill of this city Paul W., aged 12. The patient was comatose and had a high temperature; the neck and back muscles were stiff, and Kernig's sign was well marked. The pupils were dilated and the eyes staring. Fearing cerebrospinal meningitis I made a spinal puncture within an hour and withdrew 50 c.c. of milky spinal fluid, and, without withdrawing the exploring needle, I injected into the canal 30 c.c. of Flexner's serum.

As soon as my son, Dr. E. S. Green, could reach our laboratory he made a careful microscopic examination and found the fluid loaded with the *Diplococcus intracellularis meningitidis.*

In twenty-four hours I made a second puncture and again allowed 50 c.c. of spinal fluid to flow out and again injected 30 c.c. of Flexner's serum. Again Dr. E. S. Green made careful slides and found that the diplococcus had partially disappeared and we could see macroscopically that the spleen fluid was not so thick or cloudy, and that leukocytes were very numerous. The muscular contractions were not so firm, and the boy, while still unconscious, was easier to handle and would voluntarily change his position, which he could not do before on account of opisthotonos.

Thirty-six hours later I made the third and last puncture, again withdrawing 50 c.c. of fluid and injecting 30 c.c. of serum, making in all 90 c.c. of serum. On this occasion the boy was held for thirty minutes by his father in an incline of 45 degrees head downward, in order that he might receive some benefit from gravity.

At the third puncture the spinal fluid was clear and seemed normal both to the eye and under the microscope. On this day the boy had two severe convulsions and on the next morning awoke, asked for food, inquired what was the matter, and promptly recovered.

I believe this case valuable because every step was verified by the microscope, and the rapidity of the disappearance of the meningococcus was carefully noted. The series of slides (three of each puncture) was preserved.

126 West Jackson Street.

THE EMETIN TREATMENT OF AMEBIC DYSENTERY

William Allan, M.D., Charlotte, N. C.

For a number of years English[1] physicians working in India have maintained that ipecac is the best remedy for amebic dysentery, and within the past few years the American profession has largely come to agree with them.[2] In March, 1911, Vedder,[3] working in Manila, published his findings that a fluid extract of ipecac would kill amebas in cultures in dilutions as high as 1:200,000. The next year Rogers[4] in Calcutta found that emetin hydrochlorid killed amebas in stools in dilutions of 1:100,000 and began the use of this salt hypodermically in cases of amebic dysentery. His brilliant results led me to try this therapy, and as I have seen so far no confirmation of his work, I submit the following cases:

Case 1.—White man, aged 51, farmer, contracted amebic dysentery in Alabama in October, 1912. I saw the case in consultation with Dr. L. W. Hunter, Dec. 20, 1912. At that time the man was in bed, having about six stools daily, with mucus and tenesmus, but no gross blood. There was irregular evening fever, at times reaching 103. Blood examination: hemoglobin 65 per cent., white count 6,000; differential count showed polynuclears 73 per cent., large mononuclears 5 per cent., small mononuclears 16 per cent., eosinophils 6 per cent. Feces were liquid, containing mucus, considerable blood microscopically, and many amebas engorged with red blood-cells. Physical examination showed considerable tenderness over the colon from the cecum to the splenic flexure.

December 21: Admitted to the hospital and given 0.8 grain of emetin hydrochlorid hypodermically. Patient had four stools before admission.

December 22: No nausea from emetin; two stools since yesterday; examination of a fresh stool failed to show amebas; blood and mucus still present; patient given 1.4 grains of emetin.

December 23: Slight nausea last night; two stools, without either blood or amebas; mucus still present; patient given emetin, 1.4 grains.

December 24: One normal stool to-day, the first in five weeks; no blood, mucus, or amebas; no tenesmus; tenderness over the colon improving rapidly; temperature subnormal since the first dose of emetin. The patient was dismissed, December 30, apparently well.

Case 2.—Male negro, aged 22, referred to me Sept. 7, 1912, by Dr. J. Q. Myers, contracted dysentery in the spring of 1910. He improved the following winter, but in the summer of 1911 had dysentery off and on, and had it steadily during the summer of 1912, with as many as thirteen bloody, mucous, painful stools a day. Hemoglobin 80 per cent.; differential count showed polynuclears 74 per cent., small mononuclears 15 per cent., large mononuclears 3 per cent., eosinophils 8 per cent. Feces showed blood, mucus and amebas containing red blood-cells. Physical examination was negative except for tenderness over descending colon, which was thickened. Patient was given 50-grain doses of ipecac by mouth and delayed vomiting and purging resulted, but the amebas remained. After several weeks another course of salol-coated ipecac pills was instituted, but the amebas did not disappear.

November 2: Given 0.6 grain emetin hydrobromid hypodermically, and after three days the dose had been increased to 1.3 grains. The salt was dissolved in 3 c.c. of water per grain,

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1. Manson, Sir P.: Tropical Diseases, William Wood & Co. Rogers, L.: Fevers in the Tropics, Oxford Medical Publications.
2. Brem, W. V.: Am. Jour. Med. Sc., 1910, cxl, 669. Simon, S. K.: New Orleans Med. and Surg. Jour., 1912, lxv, No. 5, etc.
3. Vedder, E. B.: Bull. Manila Med. Soc., March, 1911.
4. Rogers, L.: Brit. Med. Jour., June 22 and Aug. 24, 1912; *Therap. Gaz.*, 1912, xxxvi, 837.

but caused great pain at the site of injection and apparently was not absorbed. The dysentery with amebas continued as before. Dr. F. W. L. Tydeman made an analysis of the emetin hydrobromid and failed to confirm its presence in the preparation. This was then discontinued.

December 17: Since the last note, patient has taken ipecac pills again, but without effect. Patient given 0.8 grain emetin hydrochlorid (Merck) (5 per cent. solution in normal salt) hypodermically.

December 18: Blood, mucus and amebas still present.

December 19: Emetin hydrochlorid, 1.5 grains, administered hypodermically.

December 21: No effect; 1.6 grains given hypodermically. This salt is evidently absorbed but has caused so far no nausea or vomiting.

December 23: Amebas still plentiful; 2 grains of emetin given hypodermically.

December 27: Amebas still present. As this dose had caused no symptoms I determined to increase the dose until vomiting occurred.

December 30: Patient admitted to the hospital and given 2.4 grains of emetin hydrochlorid.

December 31: *No symptoms from yesterday's medication*, and blood, mucus and amebas still plentiful. Patient given hypodermically 4 grains of emetin hydrochlorid at 12:30 p. m. This caused nausea for several hours in the afternoon with vomiting once at 5 o'clock.

January 1: No blood and no mucus in the stools to-day, for the first time since last spring. No amebas on microscopic examination.

January 2: Stools formed, no blood, mucus or amebas. The aching over the sacrum has disappeared.

January 4: Patient dismissed as apparently well. No blood, mucus, pain or amebas since the last dose of emetin, December 31.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

MENINGOCOCCUS VACCINE.—(See N. N. R., 1913, p. 223.)

G. H. Sherman, Detroit.

Meningococcus Vaccine.—Each Cc. contains about 1,000 million killed meningococci.

STAPHYLOCOCCUS VACCINE.—(See N. N. R., 1913, p. 225.)

G. H. Sherman, Detroit.

Staphylococcus Pyogenes Aureus Vaccine.—Marketed in two strengths: 1. Containing in each Cc. about 300 million *Staphylococcus pyogenes aureus.* 2. Containing in each Cc. about 600 million *Staphylococcus pyogenes aureus.*

Staphylococcus Pyogenes Albus and Aureus Vaccine.—A mixed vaccine containing in one Cc. *Staphylococcus pyogenes albus* and *aureus* each 600 million.

PNEUMOCOCCUS VACCINE.—(See N. N. R., 1913, p. 224.)

G. H. Sherman, Detroit.

Pneumococcus Vaccine.—Marketed in two forms: 1. Each Cc. contains about 40 million killed pneumococci. 2. Each Cc. contains about 100 million killed pneumococci.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 595)

AURICULAR FIBRILLATION

While auricular fibrillation is a clinical entity, it is often difficult of diagnosis, and sometimes can be excluded only by treatment and the results of treatment, or by watching the patient for some time. When completely present, it consists really of a paralysis of the auricles; normal systolic contractions of the auricles do not occur, although there are little rapid twitchings of different muscle fibers of the auricles, which give the name to the condition.

In 1902 Dr. James Mackenzie of England discovered that in these irregular hearts the auricular wave in the jugular tracings did not occur, and assumed that the auricle was more or less paralyzed. In 1908 he concluded that from a stimulus, perhaps occurring in the auriculoventricular node, both auricles and ventricles contracted synchronously, and to these he gave the term of "nodal rhythm." But in 1909 Lewis[1] determined by experimentation that when fibrillations were caused in the dog the tracings were perfectly similar to those observed by Mackenzie, although Cushny and Edmonds, in 1906, had already suggested this similarity. It is now known that there is no nodal rhythm in auricular fibrillation, and that the ventricle fortunately generally responds to only a certain number of the auricular stimuli. The auricle loses coordinate activity but is probably not paralyzed.

The irregular pulse in auricular fibrillation is more or less distinctive, being generally rapid, from 110 upward. Occasionally the pulse-rate may be much slower, if the heart is under the influence of digitalis. The irregularity of the pulse in this condition is excessive; the rate, strength and apparent intermittency during a half minute may not at all represent the condition in the next half minute, or in the next several minutes. It has been thought that auricular fibrillation, while prevented many times by digitalis, is perhaps incurable. This is probaly not true in the early stages of the condition. If digitalis does not cure the irregularity, the condition has been termed the "absolutely irregular heart." Other terms applied to the condition have been "ventricular rhythm," "nodal rhythm" and "rhythm of auricular paralysis." The condition of the pulse has been Latinized as *pulsus irregularis perpetuus.*

While the condition is best diagnosed by tracings taken simultaneously of the heart, jugular and radial, still the jugular tracing is almost conclusive in the absence of the auricular systolic wave. The radial tracing is exceedingly suggestive, and if it is taken with a careful stethoscoping of the heart, an almost certain presumptive diagnosis may be made.

This condition of auricular fibrillation occurs occasionally in valvular disease, and perhaps most frequently in mitral stenosis; but it can occur without valvular lesions, and with any valvular lesion. If it occurs in younger patients, valvular disease is likely to be a cause; if in older patients, sclerosis or my [illegible] ardial [illegible] eneration is generally present.

It may also follow depressi [illegible] h-theria, or some infection th [illegible]

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[1] Lewis, Thomas A.: Heart [illegible]
13, 1912.

Rarely this fibrillation may be caused by some of the drugs used to stimulate the heart.

It is astonishing how few symptoms may be present with auricular fibrillation and an absolutely irregular heart action. The patient may be able to perform all of his duties, however strenuous, until coincident, concomitant or causative ventricular weakening and dilatation or broken compensation occurs, and then the symptoms are those due to the cardiac failure. Often in the first stage of this weakening and later fibrillation of the auricles the patient may recognize the cardiac irregularity and disturbances. Generally, however, he soon becomes accustomed to the sensations, and, unless he has cardiac pains or dyspnea, he becomes oblivious to the irregularity. At other times he may be conscious of irregular, strong throbs or pulsations of the heart, as such hearts often give an occasional extra sturdy ventricular contraction. These he notes. Real attacks of tachycardia may be superimposed on the condition. Sooner or later, however, if the condition is not stopped, cardiac weakness and loss of compensation, with all the usual symptoms, occur. It seems to be probable that more than half of all cases of heart failure are due to auricular fibrillation, or at least are aggravated by it.

The condition may be stopped by relieving the heart and circulation of all possible toxins and irritants, and by the administration of digitalis. One attack is frequently followed by others, perhaps of longer duration. Occasionally, however, the patient may be observed for many years without the condition again being present. If the pulse, in spite of treatment, is permanently irregular, and auricular insufficiency is permanent, the patient is of course in danger of cardiac failure; but still he may live for years and die of some other cause than heart failure. The prognosis seems to be better when the pulse is not rapid—below a hundred. This shows that the ventricles are not much excited and do not tend to wear themselves out.

Any treatment that lowers the heart-rate is of advantage, such as the stopping of tea and coffee, the administration of digitalis, and an increased amount of rest and quiet. Digitalis should be increased gradually until a fair dose is given, and it is better to administer one dose a day than several. If it causes undesired symptoms, such as cardiac pain, a tight feeling in the chest, nausea or vomiting, or a diminished amount of urine, it is not acting well and should be stopped. If the pulse is gradually slowed to about what is normal, its action should be considered successful.

If the pulse is intermittent and there is apparently a heart-block, Stokes-Adams disease should be considered as possibly present, and digitalis would be contra-indicated and would do harm.

A scientific indication as to whether a heart is disturbed through the action of the vagi nerves or whether the disturbance is due to muscle degeneration may be obtained by the administration of atropin. Talley[2] of Philadelphia shows the diagnostic value of this drug. It is a familiar physiologic fact that stimulation of the vagi slows the heart or even stops it. Stimulation of these nerves by the electric current, however, does not destroy the irritability of the heart; indeed, the heart may act by local stimulation after it has been stopped by pneumogastric stimulation. It is also a well-known fact that anything that inhibits or removes vagus control of the heart allows the heart to become more rapid, since these nerves act as a governor to the heart's contractions. Under the influence of atropin the heart-rate is increased by paralysis of the vagi. Talley states that a hypodermic injection of from 1/50 to 1/25 grain of atropin produces the same paralytic and rapid heart effect in man. He advises the use of 1/25 grain of atropin in robust males, and 1/50 grain in females and in less robust males, and he has seen no serious trouble occur from such injections. The throat is of course dry, and the eyesight interfered with for a day or more, but Talley has not seen even insomnia occur, to say nothing of nervous excitation or delirium. Theoretically, however, before such atropin dosage, an idiosyncrasy against belladonna should be determined.

The value of such an injection rests on the fact that atropin thus injected will increase the normal heart from thirty to forty beats a minute, and Talley believes that if the heart-beat is increased only twenty or less, if the patient has not been suffering from an exhausting disease, it shows "a degenerative process in the cardiac tissue which makes the outlook for improvement under treatment unpromising." He also believes that when the heart in auricular fibrillation is increased the normal amount or more than normal, the prognosis is good. He still further advises in auricular fibrillation an injection of atropin before digitalis has been administered, and another after digitalis is thoroughly acting. Comparison of the findings after these two injections will determine which factor, vagal or cardiac tissue, is the greater in the condition present. The patients with a large cardiac factor are the ones who may be more improved by the digitalis treatment than those in whom the fibrillation is caused by vagus disturbance.

BRADYCARDIA

The first decision to be made is what constitutes a slow pulse or slow heart. A pulse below 58 or 60 beats per minute should be considered slow, and anything below 50 should be considered abnormally slow and a condition of more or less suspicion. A pulse from 45 to 50 per minute occasionally occurs when no pathologic excuse can be found, but such a slow rate is unusual. Before determining that the heart is slow, it must of course be carefully examined to determine if there are beats which are not transmitted to the wrist; also whether a slow radial rate is not due to intermittency or a heart-block. Auricular fibrillation, while generally causing a rapid pulse (though by no means all beats are transmitted to the peripheral arteries), may cause a slow pulse because some of the contractions of the heart are not transmitted.

While any pulse-rate below 50 should be considered abnormal and more or less pathologic, still a pulse-rate no lower than 60 may be very abnormal for the individual. For athletes and those who work hard physically a slow pulse is normal. Such hearts are often not even normally stimulated by high fever, so that the pulse is unusually slow considering the patient's temperature, unless inflammation of the heart has occurred.

Some chronic diseases cause a slow pulse; this is especially true of chronic interstitial nephritis. In fact, it may be stated that any disease or condition that increases the blood-pressure generally slows the pulse, unless the heart itself is affected. This is true of hypertension, of arteriosclerosis, of nicotin unless the heart has become injured, and often of caffein, unless it acts in the individual as a nervous stimulant. Chronic lead-poisoning causes a slow pulse on account of the increased blood-pressure.

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[2] Talley, James: Am. Jour. Med. Sc., October, 1912.

A slow pulse may occur during convalescence from acute infections such as typhoid fever and pneumonia, and sometimes after septic processes. While it may not be serious in these conditions, it should always be carefully watched, as it may show a serious myocarditis.

While weakness generally and myocarditis, at least on exertion or nervous excitation or after eating, cause a heart to be rapid, still such a heart may act sluggishly when the patient is at rest, so that he feels faint and weak and disinclined to attempt even the slightest exertion. In such a condition calcium, iron and strychnin, not too frequently or in too large doses, and perhaps caffein, are indicated. Camphor is always a valuable stimulant, more or less frequently administered, during such a period of slow heart. This slow heart sometimes occurs after rheumatic fever; it is quite frequent after diphtheria, and may show a disturbance of the vagi.

Although the prognosis of such slow hearts after serious illness is generally good, a heart that is too rapid after illness is often more readily brought to normal by proper management than a heart that is too slow. Either condition needs proper treatment and proper management.

It is well recognized that serious, almost major hysteria may be present and the heart not only not be increased, but it may even be slowed. The heart in this condition of course requires no treatment. In cerebral disturbances, especially when there is cerebral pressure, and more particularly if there is pressure in the fourth ventricle, the pulse may be much slowed. It is often slowed in connection with Cheyne-Stokes respiration. It may be very slow after apoplexy, and when there are brain tumors. It is often much slowed in narcotic poisoning, especially in opium, chloral and bromid poisoning. Serious toxemia from alcohol may cause a heart to be very slow. It is more likely, however, to cause a heart to be rapid, unless there is actual coma.

A frequent condition causing a slowing of the heart is the presence of bile in the blood, typically true of catarrhal jaundice. Uremic poisoning and acidemia and coma of diabetes may cause a pulse to be very slow.

Not infrequently after parturition the heart quiets down from its exertion to a rate below normal. If the urine is known to be free from albumin and casts and there are no signs of impending eclampsia, the slow pulse is indicative of no serious trouble; but the urine should be carefully examined and a possible uremia or other cause of eclampsia carefully considered. Sometimes with serious edema and after serious hemorrhage the heart becomes very slow, unless some exertion is made, when it will beat more rapidly than normal. This probably represents a diminished cardiac nutrition.

The cardiac lesions that cause a pulse to be slow are sclerosis or thrombosis of the coronary arteries, fatty degeneration of the myocardium and Stokes-Adams disease.

It is therefore seen that when a pulse is slower than normal, even below 65 beats per minute, the cause should be sought. If no functional or pathologic excuse is discovered, it must be considered normal for the individual, and as above stated, even 58 or 60 beats per minute are in many instances normal for men. This is especially true with beginning hypertension, and may be true in young men who are athletic or who are oversmoking but are not being poisoned by the nicotin, as shown by the fact that their hearts are not rapid, that they are not having cardiac pains, that they do not perspire profusely, and that they do not have muscle cramps. A pulse of from 50 to 55 is liable to be seriously considered by an insurance company in deciding the advisability of the risk, and below 50 must be considered as abnormal.

If a person has been long accustomed to a slow-acting heart, there are no symptoms. If the heart has become slowed from disease or from any acute condition, the patient is likely to feel more or less faint, perhaps have some dizziness, and often headache, which is generally relieved by lying down. Sometimes convulsions may occur, epileptiform in character, due possibly to anemia or irritation of the brain. If the slow heart does not cause these more serious symptoms, the patient may feel weak and unable to attend to his ordinary duties. As previously urged, an abnormally slow heart after serious illness should be as carefully cared for as a too rapid heart under the same conditions. Probably often a myocarditis and perhaps some fatty degeneration are at the base of such a slowed heart after serious infections.

A heart that has not always been slow but has gradually become slow with the progress of hypertension and arteriosclerosis will often disclose on post-mortem examination serious lesions of the coronary arteries.

Deficiency in the thyroid secretion will always cause a heart to be slower than normal. The more marked and serious the hypothyroidism, the slower the heart is likely to be. When such a condition is diagnosed the treatment is thyroid extract; or if the insufficiency is not great, small doses of an iodid should be given. In either case it is sometimes astonishing how rapidly a slow, sluggishly acting heart improves and how much improvement there is in the mental condition of the patient.

In acute slowing of the heart, as in syncope, the patient must immediately lie down with the head low, possibly with the feet and legs elevated, and all constricting clothing of the abdomen and chest should be removed. Whiffs of smelling-salts may be given; whisky, brandy or other quickly-acting stimulant, not much diluted, may also be given. Aromatic spirit of ammonia, camphor, a hypodermatic dose of strychnin or atropin if deemed necessary, a hot-water bag over the heart, and massaging of the arms and legs to aid the return circulation, are all means which are generally successful in restoring the patient's circulation to normal. Caffein is another valuable stimulant, perhaps best administered as a cup of coffee. Digitalis is not indicated: neither is nitroglycerin, unless the slow heart is due to cardiac pain or to an angina.

Some patients have syncopal attacks with the least injury or with any mental shock. Such patients as soon as restored are as well as ever. Other patients who faint or have attacks of syncope should remain at rest on a couch or bed for some hours.

A tangible cause being discovered for an unusually slow heart is sufficiently indicative of the treatment not to require further comment. While generally toxins from intestinal indigestion make a heart irritable and more rapid, sometimes they slow a heart, and in such cases the heart will be improved when catharsis has been caused and a modification of the diet is ordered.

(To be continued)

Beware of a Full Bladder.— As long as the possibility of the full bladder is not definitely excluded great caution should be exercised in making and especially in expressing a diagnosis. A distended bladder may be a great wrecker of reputation. Arthur E. Giles in *Clin. Jour.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, MARCH 1, 1913

A NEW CONGENITAL ANOMALY IN NUTRITION

The existence of distinctive inborn errors of metabolism has become as firmly established in medicine as has the occurrence of congenital defects which manifest themselves in some more patent anatomic anomaly. Alkaptonuria and cystinuria are now recognized as illustrations of inherited perversions of the usual chemical changes which the proteins undergo in the normal course of their transformations in the cells and fluids of the organism. Earlier it was believed that the chemical upset which is responsible for the appearance of abnormal products, such as arise in the urine in the two conditions cited, had its seat in the gastro-intestinal tract. The appearance of unique derivatives of the proteins was charged to some exceptional bacterial invasion of the digestive canal; but the essential features of alkaptonuria and of the persistent elimination of cystin could not be imitated or induced by any scheme of bacterial inoculation or experimental procedure. It became more and more clear that the defects of metabolism, to whatever they may be due, are readily tolerated almost indefinitely by the individual; and the history frequently shows that they were present from very early periods and bore the stamp of inherited abnormalities. Cystinuria is probably an anomaly in the protein metabolism in which the cystin derived from the disintegration of the albuminous molecule for unknown reasons is not destroyed as it ordinarily is. The anomaly in the case of alkaptonurics is currently explained on the hypothesis that the demolition of the protein fragments, tyrosin and phenylalanin, which ordinarily is assumed to take place into homogentisic acid, stops at this point in these patients. Their organism has lost the capacity to rupture the benzene nucleus, and the undestroyed homogentisic acid — the distinctive component of the urine in alkaptonuria — is excreted as such. If one cares to venture into the domain of speculation it may be assumed that "the subject of alkaptonuria or cystinuria lacks an enzyme to which is intrusted a particular metabolic task which in consequence fails to be carried out." Such explanations involving the alleged deficiency or absence of some essential enzyme must, however, be accepted with extreme reserve, because it has come to be a familiar habit in pathology to ascribe chemical defects or perversions to the lack or the development of this or that enzyme. It is a convenient way of escaping a difficult proof, and the enzyme hypothesis has been greatly overworked.

Dr. A. E. Garrod, to whom we owe much of our systematic knowledge of these inborn errors of metabolism, and Dr. W. H. Hurtley of London have described a case of steatorrhea which appears to inaugurate a new type of congenital family defects.[1] An excess of fat in the stools[2] may, of course, be occasioned by a variety of conditions, and the term "fatty stools" is usually applied only in those cases in which there are visible masses of fat in the feces, or the excreta have a distinctly oily appearance. This rarely occurs from undue ingestion of fat unless a very prompt evacuation of the upper bowel has resulted. Diseases of the intestine, such as enteritis, ulcerations and amyloid conditions, often interfere with the absorption of fat. The fatty fecal discharges that follow the obstruction of the bile-ducts are familiar, and the cause is at once revealed by the color of acholic stools. The most characteristic cause of typical fatty stools is disease of the pancreas or obstruction of its ducts, whereupon a real steatorrhea may occur.

The novel case presented by Garrod and Hurtley involves a boy who had been subject from infancy to the passage from the bowel of liquid fat which solidified on cooling. He exhibited no other morbid symptoms, was well-grown and well-nourished, and in no way infantile. Naturally attention was at once centered on the possible existence of pancreatic disease; but the signs of this all failed. The fats were usually fairly well split (which is not true in the absence of pancreatic secretion); and the impairment of absorption was not dependent on deficient splitting or digestion of fats, since improved saponification of the ingested fats was not followed by improved absorption. There were no manifestations of disease of the intestines; and on a diet containing very little fat the stools assumed a normal appearance and consistency. The investigations of Garrod and Hurtley point to an error in fat absorption in this case, accompanied by, but not dependent on, a limitation in the power to split fats. These authors suggest that some function of the pancreas may be in abeyance. There was no defect in the pancreas secretion as a whole, for protein digestion was apparently unimpaired. The high degree of tolerance of carbohydrate afforded evidence of activity of the internal secretion of the gland, so that its influence on fat absorption is alone open to suspicion. The intimate clinical association of true steatorrhea with lesions of the pancreas favors this view.

The experience in this case emphasizes what has so often been pointed out of late in these columns, namely, that so-called functional tests have limitations which must constantly be kept in mind. The uncertain results of tests of the efficiency of the pancreas need excite no surprise; for, as Garrod and Hurtley remark, the pancreas is the seat of diverse morbid processes of widely different characters, some of which cause blockage of its ducts, while others induce changes in its secreting structures, and others again do both.

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[1] Garrod, A. E., and Hurtley, W. H.: Congenital Family Steatorrhea, Quart. Jour. Med., 1913, vi, 241.

[2] We note, as Garrod and Hurtley also point out, that the term "steatorrhea," or "stearrhea," is unfortunately defined in dictionaries in a quite different sense, namely, as what is commonly known as "seborrhea." This is the only definition thereof given in Webster's, for example.

Perhaps the most interesting feature of this case of steatorrhea, the first to be described as congenital, and unattended by any signs of illness, lies in the probability that the rare inborn error was probably a mendelian recessive characteristic. The same anomaly was exhibited by another child of the same parents, who are first cousins. The family tree thus closely resembles that of an alkaptonuric family[3] in which two out of five children of a first-cousin marriage were affected. By way of explanatory comment we may quote from the English investigators that such rare recessive characteristics will be especially apt to manifest themselves in children of parents who are closely related; for intermarriage of stocks in which they are transmitted will afford the best opportunities for the union of recessive gametes (as the biologist expresses it), and the appearance of recessive qualities which may have been dormant for generations. Now that attention has been directed to a new anomaly, other cases will doubtless be observed and placed on record.

THE LIPOIDS AND NUTRITION

Any statement regarding the rôle in the organism of the so-called lipoids must be prefaced by an admission of the vague and utterly indefinite significance of this expression. To the chemist it seems incongruous to group together such heterogeneous substances as cholesterol and lecithins solely because they happen to exhibit somewhat similar solubilities in unspecific organic solvents like alcohol and ether. Nevertheless the alcohol-ether-soluble constituents of tissues and cells have been considered by biologists and physicians for some time in a collective way; and at present it is impossible to examine the literature of immunology or of nutrition without taking cognizance of the "lipoids," however much one may justifiably object to the extreme inappropriateness of the designation and the unscientific uncertainty attendant on its use.

Some time ago we called attention[1] to Stepp's contention that some substance or substances of the lipoid class are indispensable to life. Mice invariably die when the food on which they ordinarily throve was thoroughly extracted with alcohol and ether prior to its use in the diet. The addition of lipoid extracts from various materials such as brain, egg-yolk, etc., sufficed to restore the depleted dietaries to nutrient efficiency. In the course of these investigations Stepp[2] observed that the restoration of the extracted lipoids, that is, the alcohol-ether-soluble components of the foods, was not effective in realimenting the animals unless precaution had been employed to prevent the application of higher temperatures in the manipulations involved in the extraction of the food materials. Not only heating with alcohol, but also boiling with water render a previously adequate food insufficient for permanent maintenance of health and nutritive equilibrium. This destruction of nutrient potency does not apply to the proteins, inasmuch as suitably prepared protein-free lipoid extracts remedy the inadequate character of foods that have been boiled in water.

These reports of the extreme heat-instability of an essential constituent of the dietary, and the apparent inability of an organism to construct suitable lipoids *de novo*, as it undoubtedly synthesizes its own tissue proteins from digestion fragments, have an immediate bearing on dietetic habits and culinary practices. There is other evidence that the prolonged heating of foods as in cooking may not be without serious import. It crops out at intervals in the debates about scurvy and has furnished an almost endless discussion in relation to the pasteurization or sterilization of certain products. Further than this, the studies of Gardner in London give justification for the belief that the organism conserves its own supply of cholesterol most carefully. The losses of cholesterol or its derivatives in the stools represent food residues, not tissue wastes under conditions of adequate nutrition. Cholesterol secreted into the alimentary tract is reabsorbed.

It will be a great step in advance when the "lipoid" substances are suitably isolated and distinguished. The current method of examining them collectively can lead only to continued confusion. When once the appropriate distinctions are made, further progress is certain to follow. The brain chemists have made a beginning which must be extended into other fields.

INHIBITORY PHENOMENA OF THE STOMACH

The idea of inhibition as applied to physiologic processes has been slow to win recognition in questions of medical import. We have long been accustomed to speak of the stimulation of some function or other by the various agencies that play on the organism. Thus our nervous and muscular systems are stimulated to more active response in diverse ways; our digestive functions are incited to activity both through nervous channels and by chemical agents now called hormones. All of this is a positive sort of response. When the stimuli are withdrawn or cease to operate, the corresponding reaction fails to appear, because it is no longer suitably initiated. In contrast to this passive type of cessation of function due to the withdrawal of stimuli, we are learning to recognize an active sort of stoppage of physiologic activities attributable to direct inhibitory impulses.

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[3] Compare Garrod, A. E.: Lancet, London, 1908, ii, 5.

[1] The Rôle of Lipoids in Nutrition, editorial, The Journal A. M. A., Nov. 4, 1911, p. 1540.

[2] Stepp, W.: Ueber die Hitzezerstörbarkeit lebenswichtiger Lipoide der Nahrung, Ztschr. f. Biol., 191[illegible]

This positive inhibition as contrasted with a mere passive relaxation of effort is undoubtedly a phenomenon of pronounced importance. To the more familiar illustrations of inhibition as they are exhibited in the behavior of the heart and in certain types of cerebral inhibition, Professor Carlson has added further interesting examples in his fascinating studies on the physiology of the human stomach.[1] Mention was recently made in The Journal[2] of the unique subject — a modern Alexis St. Martin — whose gastric functions have been investigated at the University of Chicago. We referred to the demonstration that the contractions of the empty stomach give rise to the sensation of hunger and are, in fact, the undoubted cause of hunger "pangs." Further investigation shows that these contractions can be inhibited reflexly in a variety of ways. Both the tasting and chewing of palatable foods, which fail (owing to the subject's esophageal stenosis) to reach the stomach itself, bring about the speedy cessation of the rhythmic contractions of this organ. A careful analysis of the factors here involved, of the part played by the mechanical act of mastication and by the independent element of taste, discloses the cooperation of both of these in the inhibitory process. Chewing a tasteless substance like paraffin or gum is effective, although less so, on the whole, than are gustatory stimuli. The masticatory movements do not cause inhibition if the mouth is empty, so that the inhibition produced by chewing indifferent substances is presumably initiated by mechanical stimulation of afferent nerve endings in the mouth. Stimulation of the organs of taste, as it is produced by holding sweet, bitter, salty or acid substances in the mouth, promptly checks the gastric movements, the inhibition being proportional to the concentration of the sapid substances. Swallowing also effects a temporary inhibition. Carlson inclines to the view that these phenomena are fundamental reflex inhibitions, associated with, but not dependent on, the states of consciousness. The psychic element in all such reactions is, of course, difficult to estimate or exclude.

Certain details in the mechanism of the behavior just described seem to be settled. The "psychic" secretion of gastric juice described by Pawlow is familiar to our readers. When the chewing or tasting of palatable foods leads to copious secretory response, the gastric juice produced is one factor, though not the only one, in the accompanying inhibition of the stomach movements. The latter is here due not to the process of secretion, as such, but to acid stimulation of nerve endings in the gastric mucosa. Under appropriate conditions the reflex inhibition from the mouth merges into the acid inhibition from the stomach.

Inasmuch as the stomach movements determine the sensation of hunger, the tasting and chewing of palatable foods abolishes this quite as might be anticipated. Now Carlson points out that in every-day experience appetite is augmented by tasting palatable products. Since hunger is stopped in this way it may be concluded that hunger has reached its biologic end as a motor stimulus when the foods reach the mouth, and at that stage appetite takes the place of hunger as a guide to the quantity of foods to be ingested. Finally, we are reminded of the fact that although normal gastric juice inhibits the movements of the empty stomach, it does not check the stomach movements in digestion. This would indicate, in Carlson's opinion, that the motor activities of the empty and of the filled stomach involve, in part, different mechanisms.

THE IMMUNITY OF THE INTESTINE FROM DIGESTION BY THE ALIMENTARY ENZYMES

Why the portions of the alimentary tract within which a vigorous digestion of the foodstuffs takes place escape the proteolytic disintegration to which their contents are subjected has long been the subject of hypothesis and debate. In the case of the stomach, the fact that pepsin digestion proceeds best in acid mediums has made it logical to assume that the resistance of the gastric tissues is attributable to the neutral or slightly alkaline reaction of the tissues, constantly maintained and supplemented by the reaction of the circulating blood. This hypothesis of the neutralization of the acid of the gastric juice by the alkali of the blood and tissue fluids leaves us in the lurch, however, when we attempt to apply it to the comparable situation in the intestine, where the pancreatic juice can act favorably under the very conditions of reaction which also pertain in the tissues. This does not contradict the view that the reason for the non-digestion of either stomach or intestine during life is to be sought for in the normal circulation. The proper nourishment of the tissues is dependent on the integrity of their blood-supply; and if, as has been maintained, the defense of the alimentary tract against self-digestion lies in some specific resistance of its living cells, the circulation must have at least an indirect rôle in maintaining the normal functioning of the cell protoplasm. The acid neutralization theory as applied to the stomach is, however, not thereby made tenable.

This vague distinction between the living and dead protoplasm is no real explanation of the defense of the organs against self-digestion; for it merely directs attention to the new question as to what the resistance of the living protoplasm consists in. To answer this the existence of anti-enzymes has been postulated, and considerable interesting and suggestive evidence has been brought forward along such lines. Thus antipepsin and antitrypsin have become recognized terms. It can readily be demonstrated that the blood-serum possesses a native resistance to tryptic digestion which is no longer manifested when the serum has been heated. Intestinal parasites furnish similar evidence of an equipment in thermolabile anti-enzymes. Biologically this conception of the development of anti-enzymes as a protective device in the organism is quite analogous to that of the formation of other antibodies which play a conspicuous part in the immunity reactions of the body. In this sense there would be merely a specific case of a widely demonstrated response against detrimental agencies. Without denying the existence in the blood and certain tissues of substances which can impede digestive changes, it seems improbable that agents apparently possessing a comparatively slight retarding power should suffice to overcome the vigorous proteolytic efficiency that the gastric and pancreatic juices can demonstrate. Are there no other or added protective agencies?

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[1] Carlson, A. J.: Contributions to the Physiology of the Stomach, III, Am. Jour. Physiol., 1913, xxxi, 212.

[2] The Stomach in Hunger, editorial, The Journal A. M. A., Feb. 8, 1913, p. 448, and Feb. 22, p. 598.

Further possible explanations of the immunity of the alimentary wall to destruction by the digestive juices poured into the intestine have suggested themselves. It is not improbable, for example, that the enzymes fail to penetrate the mucous membranes which line the digestive tract. If such an explanation applies in any degree, the protective feature is more than likely to be associated in some way with the mucosa. In that event other mucous membranes might be expected to exhibit a comparable resistance to digestive enzymes. Kirchheim[1] has shown this to be the case. Like the intestine, the urinary bladder and esophagus are resistant to large volumes of concentrated pancreatic extracts placed in contact with their inner mucous surfaces. In this respect, therefore, the intestine occupies no isolated position. The resistance is not, however, a property of the living tissues in general. A small amount of pancreatic extract injected directly into the intestinal wall speedily gives rise to hemorrhagic necroses which involve not only the deeper portions of the wall, but the epithelial layer as well. Pancreatic extracts inactivated by heat so that they can no longer digest proteins are practically inert when injected in the same way. The striking difference in the resistance of the intestine to the same extract introduced into its lumen and into its wall speaks against the efficiency of any antitryptic power of the tissue proper in maintaining the integrity of the structure.

The alimentary mucosa secretes a peculiar viscid product which is familiarly spoken of as mucus. This substance is believed to be quite resistant to proteolytic changes by enzymes. By forming a protective coating over the interior of the alimentary tract it might well act to preserve the underlying structures from contact with the digestive fluids. This is a far more likely conception of its rôle than the view that the mucus directly inhibits the enzymes. If the latter were true, and the mucus exhibited a sort of antitryptic property, then one would expect a pronounced secretion of mucus to accompany every outpouring of pancreatic juice; and physiologically this reaction would tend constantly to render inert the digestive secretions, whereas they are obviously produced for purposes of functional efficiency. The chemical anti-enzymatic function of the alimentary mucus must therefore be dismissed as unlikely.

Kirchheim has summarized the situation in this way: There is no specific immunity of the intestine to the pancreatic enzymes. In so far as mucous membranes interfere with the ready absorption of trypsin they act as a protection to the underlying tissues. Any tissue the surface of which permits the absorption of trypsin only slowly will be protected; any tissue which is put into direct contact with the pancreatic enzymes can be attacked thereby. Added to all of this is the fact that however vigorous pure pancreatic juice may be in its proteolytic activity, the enzyme concentration which remains in the contents of the digestive tract after the admixture of the secreted juice with the food residues is relatively small. Whether the enzyme is adsorbed on the substrates on which it acts or is diluted by the admixtures it receives or is largely destroyed or transported, the fact remains that the mixture of chyme with which the intestinal wall actually comes into contact ordinarily shows only a slight excess of free enzyme. The experiments indicate that in every-day experience the intestine scarcely requires any protection against the digestive power of its contents

"THE DOCTORS AND ADVERTISED MEDICINES"

An interesting and instructive discussion of the "patent-medicine" business recently appeared in the editorial pages of the Philadelphia *North American* under the above quoted title. The editorial well described the difficulties which have beset that paper because of its advertising policy. It says that argument and pressure alike have been brought to bear by the "patent-medicine" men because it refuses certain kinds of medical advertising and it explains on what grounds the rejection or acceptance of "patent-medicine" advertising is based. On the other hand, the *North American* says that it has received almost as much criticism from the medical profession because it has not excluded *all* proprietary remedies. But, says the paper, "we believe their [the physicians'] contention that all these remedies are without merit is untrue." Then it propounds this question to the medical profession:

> Why is it that a remedy or preparation which the most ethical and conservative of them prescribe, so long as it is advertised only in medical journals, is immediately scouted and condemned by them when it appears among newspaper advertisements?

The answer to this question is that the physician does not condemn a non-habit-forming and non-toxic preparation that is first introduced only to the medical profession via m[illegible] j[illegible]als but later [illegible]rtised direct to the public in newspapers, if — and this is a big "if"— the preparation is advertised with the same degree of truthfulness in the daily press as it was advertised in medical journals. To particularize, the *North American* refers to an ointment that a few years ago was advertised only in medical journals but more recently has been widely advertised in the newspapers. The paper says that since the preparation has gone direct to the public the doctors "have discovered that it is a useless sham." The ointment referred to, doubtless, is Resinol. Our answer to the *North American's* criticism is a simple one. The objections to Resinol are not that it is advertised in newspapers but that it is advertised fraudulently in newspapers. For instance, when the Resinol advertising was confined to medical journals no such statements were made as: "Resinol heals the worst cases of eczema." Yet this is exactly what has been claimed for this preparation in the newspapers. The outrageous falsity of such claims can be fully appreciated only by physicians who recognize and admit that many cases of eczema baffle the skill of men who have devoted a lifetime to its study.

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[1] Kirchheim, L.: Ueber den Schutz der Darmwand gegen das Trypsin des Pancreassaftes, Arch. f. exper. Path. u. Pharmakol., 1912, lxxi, 1.

The *North American* refers also to "a tonic and nerve food whose name is becoming a household word through advertising." And it says further:

> It seems but yesterday that it was recommended by specialists and endorsed by the professional journals. But now that it is urged direct on the public through magazines and newspapers, the doctors tell us that it is only a form of "cottage cheese" utterly without merit.

This statement contains both truth and error. It is true that Sanatogen — the product referred to, of course — has been "recommended" by physicians and "endorsed" by medical journals. And we would say that the same sort of physicians who endorsed it before it was advertised to the public are still endorsing it; and the same sort of medical journals which praised it before it went into lay publications are still praising it — because they are carrying the advertisements themselves. No doctor who had given the matter thought would say that Sanatogen is utterly worthless. In fact, it would be absurd to say that cottage cheese is worthless. What we have said, both at the time that it was advertised only in medical journals and to-day, is that Sanatogen is advertised under claims that mislead and thereby defraud the public.

The *North American* holds, and we believe rightly so, that simple home remedies, proprietary or otherwise, are legitimate articles of trade. To illustrate its point, however, the newspaper falls into an error that is not uncommon. This can best be explained by quoting:

> Having consulted our physician for a slight stomach disorder, we received a prescription and had it filled at a cost of 50 cents. The prescription, as it happened, was returned with the bottle of liquid. During a discussion, the paper was shown to an intern in a Philadelphia hospital. He said the formula was very well known; was used by physicians everywhere. And the same thing, he added, was on the market in convenient tablet form, sold under a registered name. We bought a package at a cost of 5 cents. The same remedy from a prescription, with a physician's fee, cost $2.50.

The fallacy of this argument is evident to every physician and to the average layman. The editor who consulted a doctor for a "slight stomach disorder" may have had merely a passing indigestion or he may have had incipient cancer of the stomach or other serious affection. That he had the former, he learned from the physician. It was for this information, primarily, that he paid his $2, not for the prescription. Furthermore, even admitting that the prescription was, as the intern said, a well-known one, the intern did not know and could not know that "the same thing . . . was on the market in convenient tablet form, sold under a registered name." The only man who knows the composition of the "convenient tablet" is the manufacturer of the tablets. Evidently, then, the editorial writer could have had no means of knowing that he was getting "at a cost of five cents" the "same remedy" that was called for by the doctor's prescription. In other words, in the one case the editor obtained an expert opinion on the matter of vital interest to him — his physical condition — and he obtained for the treatment of his condition a preparation whose composition was known. For these, he paid $2.50. In the other case, he would have obtained, for an unknown — to him — ailment, a box of tablets of unknown composition that might or might not have been of value. If the editor, in this instance, had had an incipient gastric cancer and decided to "treat it" in the cheapest way — by buying five cents' worth of tablets — he would have saved $2.45 and possibly lost — his life.

While, then, we cannot accept all of the arguments put forth by the *North American*, we believe that the editorial as a whole is an excellent one. It represents the attitude of the intelligent layman toward the "patent-medicine" evil. That the medical profession is responsible for at least a part of the evil we must regretfully admit. The prescribing of unknown preparations has been a practice so common in the profession as to nullify to a large extent all efforts that are being made toward ridding the public of the nostrum evil. We cannot too often assert, however, that the medical profession does not believe that there is no place in commerce for simple home remedies. Neither can the medical profession object to any proprietary preparation solely on the ground that it is advertised in the lay press. What it does object to is the fraudulence that is apparently inseparable from the exploitation of such preparations when sold to the public

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"OFFICIAL INFORMATION"—MEDICAL!

In order to provide a little amusement for our readers we frequently publish quotations from the lay press on medical matters. Were it not that the subject has a serious side we would be inclined to quote liberally from the official attempt of the government to enlighten its citizens on the "Friedmann Treatment for Tuberculosis," a document submitted by the Secretary of State to the President and transmitted by the latter to the Senate, by which it was published as Senate Document No. 1018. With the exception of a less than two-page introduction by the consul-general at Berlin, this document consists entirely of a translation of Dr. Friedmann's Berlin address and the discussions on it as they appeared some time ago in the *Berliner klinische Wochenschrift*.[1] The technical language of this translation can be compared only to that sometimes seen in the unedited letters of "voodoo" and similar "doctors."

On the first two pages of this document is a discussion of efforts to obtain from an "unvirulent," "untoxic" "exciter" a substance which would have the specific properties of the "exciter" without its "toxicalness," a disadvantage under which "the Alt tuberculin" whose "image still flickers in history" is stated to have suffered; this object was finally achieved by the use of "an unvirulent race of tubercles" but the "successful therapeutic results continued to be confirmed" only "a long time afterward"— and so on for fifty-four pages. This publication can be recommended to any one who wishes to test at the same time his knowledge of the German language and of tuberculosis; but we fear that some fairly familiar with both would have difficulty at times: for example, what is the diagnosis in the case of the patient who "had sharp pains in the chest, considerable oppression above to the right, and rattling in the small bladder"?[2] It might be cruel to inform the suffering, unsuspecting public of the existence of the "small bladder" in which "rattling" may occur were it not that the condition is curable; thus in the case of the patient cited, the "oppression and rattling" disappeared and the "hemoptoe" never appeared again after the treatment.

Why the government came to publish such a ridiculous document is an interesting question, the answer to which may throw some light on the manner in which the United States endeavors to handle medical problems. As appears from the President's letter of transmittal, the Senate passed a resolution requesting the President "to submit to the Senate the results of any investigation of the Friedmann cure made or being made by the American consul-general in Germany." The Senate probably made this request as the result of the sensational newspaper reports. The President turned the request over to the Secretary of State, who has charge of our foreign affairs, and he in turn transmitted it to the American consul-general at Berlin, who is there to look after our business relations with Germany. The consul-general did all that could be expected of a layman; he obtained from Dr. Friedmann the information that patients desiring his treatment must spend several weeks in Berlin (where "room and board may be obtained at the usual prices"); he obtained an opinion on the new remedy from a "local physician," and sent copies of Friedmann's address and the discussion on it. The fact that patients must go to Berlin for treatment was sufficiently advertised in the daily press; the German medical journals containing Friedmann's address were received by all the leading medical libraries of the United States, and by many private subscribers, in November; side-lights on the subject were given by the Berlin correspondents of the American medical journals. Would it not have been simpler for the Senate to appeal (through the President if this formality were necessary) to the Surgeon-General of the Public Health Service, who was presumably in possession of all this information several weeks ago and without whose sanction the "cure" cannot be sold in the United States? Were it deemed desirable to obtain further information on the subject, could not the Senate have authorized the Public Health Service to send to Berlin a man who is conversant with tuberculosis? To us this would seem a more direct method than the one pursued — but then the medical profession would have been deprived of the pleasure of reading this humorous document.

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[1] Abstracted in The Journal, Dec. 7 and 14, 1912. The subject has been discussed in various articles in The Journal, references to which are given in Queries and Minor Notes, Feb. 8, 1913, p. 466.

[2] The word "oppression" in the original is *Dämpfung*, meaning dulness, and "rattling in the small bladder" is *kleinblasiges Rasseln*, which some would render "fine bubbling râles."

Current Comment

AN INHERITED ANOMALY

Anomalies of form and function are common inborn defects which come to the attention of every physician in the course of his routine of experience. Oddities of human skin color, aside from familiar pigmentation defects or cutaneous blemishes, are less frequently encountered. An interesting variation exhibited by a family of spotted negroes has been described by Simpson and Castle.[1] The "piebald" condition of the skin, which is spotted with white in a fairly definite pattern not unlike that of certain domesticated animals, made its appearance as a mutation or sport in a negro family of the Southern United States about sixty years ago. Aside from the immediate peculiarity of this rather unique variation there is decided biologic interest in the fact that it has already shown itself fully hereditary through two generations of offspring. To the student of heredity the data that have been collected in reference to the family are very suggestive and quite in harmony with the newer doctrines of inheritance. The negro founders of the "spotted line" were entirely normal in appearance and devoid of the characteristic pigmentation of their offspring. The pattern of the latter may be described, in terms of its black areas, as having a prominent back stripe which begins on the head and extends the entire length of the trunk, narrowing below and ending on the buttocks. The white areas are in all cases devoid of pigment, while the pigmented areas are apparently not subject to change from the definite boundaries fixed at birth. Of the children belonging to the second generation eight are spotted like the mother, the remaining seven being normal, without spots. Six of these fifteen children, three normal and three spotted, married normal negro mates. The normals have had only normal children, in all seven. The spotted ones have had nine spotted and two normal children. There is no sex-limitation in the transmission of the spotted pattern, which behaves, according to Simpson and Castle, consistently as a simple mendelian dominant character, the only peculiarity being the excess of spotted grandchildren over the expected one-half. This is quite probably a chance deviation. It is suggested that if in the course of time two spotted individuals of this race, not closely related, should marry each other, a new type of individual would be produced and would transmit the unique character in all its germ cells. What the appearance of this race would be can only be conjectured. The present descendants of the spotted family are now widely scattered, some of the spotted ones being connected with public exhibitions. Inasmuch as their peculiarity is an "economic asset" to them it is not likely to be a hindrance to their racial increase.

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[1] Simpson, Q. I., and Castle, W. E.: A Family of Spotted Negroes, Am. Naturalist, 1913, xlvii, 50.

DOES MANGANESE OCCUR IN THE BLOOD?

Scattered statements in the literature of physiologic chemistry have furnished the authority for the occasional announcement that manganese is not infrequently present in human blood and in the liver; but it is said to be neither constant in its occurrence nor significant in amount. At best, therefore, it must be regarded as a rare element in the tissues of higher animals. In the lower forms, such as the fresh-water clams, manganese has been asserted to be a normal tissue constituent.[1] Bertrand has reported a constant functional relation between manganese and the enzymes which are designated as oxydases. If this were found to be correct it would be logical to assume a biologic rôle for this element in the blood and tissues. The possible physiologic deportments of very small amounts of elements or their compounds no longer awaken the surprise which they did before the discovery of iodin in milligram amounts in the body and its localization in the thyroid gland. Claims have been made for the common occurrence of arsenic in minute traces in the tissues. Here, as is so often the case in biochemical fields, the validity of conclusions respecting the presence of very small amounts of substances in the organism must be judged by the accuracy of the analytic methods which have been employed and the care with which all sources of error or contamination have been controlled. For this reason haphazard statements about the finding of this or that unexpected element have repeatedly been subjected to critical revision and failed to stand the test. In a similar spirit of criticism Bertrand and Medigreceanu[2] have approached the question of the reputed manganese content of the blood. The outcome of a careful investigation at the Pasteur Institute is that if manganese occurs at all in the blood of man and the higher animals it is in quantities far smaller than the scattered previous reports had led one to believe. In nine species of blood examined the content at best did not exceed one-twentieth of a milligram of the element per liter. Whether the minute traces sometimes found by the refined analytic procedures employed represent a real functional component of the blood or merely an accidental and insignificant contamination remains for future experience to determine. Until some definite evidence is presented the probable biologic importance of manganese in the blood may safely be disregarded.

"CLINICAL REPORTS"

As physicians, we have long accused the public of being peculiarly susceptible to the *post hoc ergo propter hoc* line of reasoning in so far as it relates to the action of medicinal agents. One of the most discouraging phases of the fight against "patent medicines" is the impossibility of persuading John Jones, who has used Dr. Rogue's Ready Relief, that the nostrum had nothing to do with his recovery. You may prove to him that Ready Relief is only pink hydrant-water, but he still insists that as he was sick before taking it and recovered after taking it, there can be no doubt that Ready Relief cured him. But really we should not be too hard on the public. There are physicians, men who have had, or are supposed to have had, scientific training, who are just as susceptible to this error in reasoning as John Jones is. The sheaves of uncritical "clinical reports" that the exploiters of utterly worthless "ethical proprietaries" can furnish in support of the medicinal virtues of their nostrums constitute sufficient evidence to prove that the "after this, therefore because of this" style of reasoning is not confined to the laity. Unfortunately for scientific medicine there are many, many doctors who, in standing up for their pet proprietary, take the attitude, so ably described by George Eliot, of those persons who are distrustful of scientific methods. They will grudgingly admit that while, as a general thing, two sides of a triangle are together greater than the third side, yet after all we must be careful, as it is easy to carry mathematical reasoning too far!

LET THE PEOPLE KNOW

We print in our Propaganda for Reform department in this issue an exposure of a class of fakers of a different order from the "patent-medicine" swindlers and mail-order quacks whose exposés have occupied space in this department heretofore. There is room for only part of this "story"; in its completeness it will be printed in pamphlet form. This matter will not enlighten physicians; they already know — in a general way, at least — the fraudulent character of such concerns. If the facts we present are to be buried in The Journal, the effort of gathering them will have been wasted. There must be some way of enlightening the people, and that way is to circulate the "story" in pamphlet form, especially in those communities which are being preyed on by these fakers. But how? Here are the facts gathered and made available; it remains for the profession to see that they reach the people. The public tolerates and is swindled by these and similar frauds because it does not know better; because it is ignorant of the facts. We have no faith in the dictum, credited to Barnum, that the American people like to be humbugged. It is not true. Neither the American nor any other people like to be humbugged. They are humbugged because they do not know better; because they are ignorant. Give them knowledge; give them the facts, and in such a way as to convince them that they are facts, and the people will no longer be duped. We have made these facts available and we hope our readers will be sufficiently interested to do their part in enlightening the public. Just a hint. It will be noticed that the Business Men's Association of Wheeling, W. Va., received these fakers in a very effective way. Probably that association acted because some of the physicians in Wheeling called attention to the matter. In any event, if the business organizations of the places in which these fakers are working are approached in the right way, they will cooperate in enlightening the public. This is a case in which the commercial side of the proposition can be used as an argument. Aside from the fact that the people are being duped, is the other fact that money is being taken out of and not being brought into the town.

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[1] Bradley, H. C.: Manganese, a Normal Element in the Tissues of the Fresh-Water Clams, Unio and Anodonta, Jour. Biol. Chem., 1907, iv, 151.

[2] Bertrand, G., and Medigreceanu, F.: Recherches sur la manganèse normal du sang, Ann. de l'Inst. Pasteur, 1912, xxvi, 1013.

THE TUBERCLE BACILLUS A SYNTHETIC PRODUCT!

It has been discovered once more that the tubercle bacillus is not the cause of tuberculosis. This time the news comes from France in the shape of a pamphlet by Albert and Alexandre Mary, authors of some curious scientific and semireligious works. The authors conclude that the tubercle bacillus is made up of a collection of granules that can be produced by mixing tuberculin and sodium glycerophosphate. Phagocytes are not animal cells but are a collection of these granules, identical with the granules of Much arranged in the form of a cell. Will the scientific world shut its eyes to such a wonderful discovery?

THE LIMITATIONS OF SPECIFICITY IN THE TRANSMISSION OF DISEASE

Recently it has been reported that a carcinoma of the mouse[1] has been successfully transplanted in rabbits. This fact is not without greater significance than may appear at first glance, for it illustrates an important tendency in medical research. It may be remembered that not so many years ago it was believed that syphilis could not be transmitted to any animal but man. After expensive experiments Metchnikoff and Roux demonstrated the inoculability of chimpanzees, using, it is said, their Nobel prize money for the purchase of these close cousins of man. Soon after this, however, it was demonstrated that less closely related (and less expensive) monkeys were susceptible, and now we have learned how to inoculate ordinary rabbits with syphilis, so that they are now in general use in many laboratories. A similar history seems to be repeating itself with other infectious diseases, which at first were supposed not transmissible from man to animals. Strauch's experiments have accomplished the widest jump in species yet recorded (and credible) in cancer investigation, and suggest, in the light of the considerations detailed above, that perhaps, after all, the specificity of tumors is not so strictly defined as we had believed, and that we cannot yet say positively that the inoculation of laboratory animals with human tumors is an impossibility.

Medical News

ILLINOIS

Personal.—Drs. M. W. Fitzpatrick and Wilbur C. Wood have been appointed consulting surgeons for the Wabash System in Decatur.

Rush Alumni Convene.—Drs. Marcus Whiting and John P. McMahon, Peoria, in commemoration of the thirtieth anniversary of their graduation from Rush Medical College, gave a dinner to the local alumni of the college, February 20, over which Dr. Otho B. Will presided as toastmaster.

Chicago

Weir Mitchell Before Physicians' Club.—On the annual ladies' night of the Physicians' Club of Chicago, Dr. S. Weir Mitchell of Philadelphia gave a delightfully reminiscent talk on "The Profession of Medicine in the War of the Rebellion." About four hundred were present.

Shattuck at Harvard Dinner.—At the annual Harvard banquet, February 21, Dr. Fred Cheever Shattuck, Boston, professor of clinical medicine, emeritus, in Harvard Medical School gave an address on the evolution of the new medical department of Harvard and a description of the new school. He was entertained at a luncheon on the same day by a number of local physicians many of whom had been his students at Harvard.

Personal.—Dr. and Mrs. Hugh T. Patrick sailed for Europe, February 19.——Dr. Jacob Frank has been commissioned major, M. C., Ill. N. G., and assigned to duty as secretary to the surgeon-general.——Dr. Walter H. Meents has returned after three and one-half years of study and travel abroad, including a trip around the world, and will locate in Chicago.——Dr. Caroline Hedger has resigned from the medical staff of the Frances Juvenile Home Association.

KANSAS

Thanks to Newspapers.—At a recent meeting of the Cowley County Medical Society held in Wichita, a resolution of thanks was adopted to newspapers which omit the names of physicians in attendance on patients whose cases are reported in newspapers.

Personal.—Dr. and Mrs. F. F. Allen, missionaries of Kiating, China, left Ottawa, January 31, on their return to their post of duty and sailed from San Francisco, February 6.——Dr. Lewis C. Day, Lawrence, formerly of Haskell Institute, Lawrence, has been transferred to a similar position in New Mexico.

New Officers.—Northeastern Kansas Medical Association at Kansas City, February 6: president, Dr. L. V. Sams, Topeka; secretary-treasurer, Dr. C. C. Goddard, Leavenworth.——Riley County Medical Association at Manhattan: president, Dr. Robert Leith; secretary, Dr. Thomas R. Cave, both of Manhattan.

LOUISIANA

New Board of Medical Examiners.—The governor has appointed Charles R. Mayer, New Orleans, a member of the Board of Medical Examiners to succeed himself; Dr. J. W. Belden, New Orleans, vice Dr. M. F. Howe, and Dr. R. A Bayley, New Orleans, vice Dr. Gayle Aiken.

Personal.—Drs. George S. Brown and C. N. Chavigny, Ne Orleans, have been appointed members of the State Board Examiners for Nurses.——Dr. A. R. Sweeney, Lake Arthur, h been detailed for duty at Ellis Island as acting assistant s geon. U. S. P. H. Service, pending his confirmation by the s ate as assistant surgeon.

Tour of Health Train.—The State Board of Health t started, February 7, on a tour of about seven months. Af week on the lines of the Louisiana Railway and Navigation Company, the train starts north, going to Kansas City, Denver, Ohio and Texas, and then makes a complete tour of Louisiana, visiting all county seats and at least one or two towns in each parish.

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[1] Strauch: Ztschr. f. Krebsforsch., 1913, xii, 377.

MARYLAND

Baltimore

Medical Art Exhibit.—An exhibit of medical drawings by Mr. Max Broedel and his pupils was held in the physiologic building of the Johns Hopkins Medical School, February 20-21.

Portrait Presented State Society.—A portrait of the late Dr. Christopher Johnston, president of the Medical and Chirurgical Faculty in 1886-7 and professor of surgery in the University of Maryland, has been presented to the faculty.

Personal.—Dr. William E. Wiegand and family are taking a trip through Florida and Cuba.——Dr. Louis Rubin has resigned from the superintendency of the Jewish Hospital for Consumptives, Reistertown.——Dr. Donald R. Hooker has resigned as a member fo the board of the Henry Watson Children's Aid Society.——Dr. Clarence B. Farrar of the staff of the Sheppard Pratt Hospital has been appointed assistant physician at the New Jersey State Hospital, Trenton.

Brigade Base Hospital.—The University Hospital has been made the base hospital for the First Brigade, N. G. Md., and Dr. William J. Coleman, medical superintendent, has been appointed assistant surgeon, M. C., and assigned to duty with the Fourth Infantry. Militiamen injured at armories or camps will be sent to the hospital under special arrangements with the state, and will receive the personal attention of Major Robert P. Bay, chief medical officer of the brigade, who is a member of the staff of the hospital.

MASSACHUSETTS

Lectures in Genito-Urinary Surgery.—Dr. Hugh Cabot and his associates at the Massachusetts General Hospital are giving a course of clinical lectures to graduates in medicine on Fridays from 10 to 12 a. m., till April 25.

Carney Hospital Changes.—The ear, nose and throat departments of Carney Hospital were merged February 1, with Dr. Edward Marwick Plummer as surgeon-in-chief. The staff of the institution consists of Drs. John T. Sullivan, Timothy J. Shanahan and Dana W. Drury, surgeons; and Drs. John L. Lougee, D. Campbell Smyth, William J. Sheehan and Frederick L. Bogan, assistant surgeons.

Leper in Boston.—In the case of Manuel Silva, Boston, who has been found to be suffering from a mild form of anesthetic leprosy, the State Board of Health and Charity has committed him temporarily to the Southampton Street Hospital for Contagious Diseases, pending the breaking up of the ice in the harbor when he will be transferred to the Massachusetts Leper Colony, Penekese Island.

Antityphoid Inoculation.—The State Board of Health has given its approval to the opinion of Maj. O. U. Patterson, chief medical officer of the National Guard of the Boston district, that this precaution should be compulsory for all enlisted men. Many of the officers have already been so protected. The prophylactic may be obtained free from the State Board of Health by any physician, the same as the diphtheria antitoxin and the small-pox vaccine.

Personal.—Dr. L. Vernon Briggs has been elected president of the medical staff of the Boston Dispensary; Dr. John D. Adams, secretary, and Dr. Elmer W. Barron, Malden, treasurer. During 1912 more than 17,000 sick children were cared for by the dispensary.——Dr. F. H. Thompson has been made chairman of the Fitchburg Board of Health and Dr. A. P. Mason has been elected city bacteriologist.——Dr. Henry McLaughlin, Brookline, who has completed a quarter of a century as physician to St. John's Seminary, Brighton, was the guest of honor at a banquet, February 3, at which he was given $1,300.——Dr. John F. O'Brien has been reappointed trustee of the Consumptives Hospital Department, Boston.——Dr. Edward J. Fitzgibbon, Dorchester, Boston, has been appointed first lieutenant, M. C., M. V. M., and assigned to the Ambulance Company.

MICHIGAN

Want $600,000 for Hospital.—Members of the poor commission of Detroit have asked for an appropriation of $600,000 for a new hospital to be built on Hamilton Boulevard.

Personal.—Dr. E. P. Lockart, Norway, has been appointed surgeon of the Verona Mining Company with headquarters at Palatka.——Dr. Victor C. Vaughan, Ann Arbor, has been reappointed a member of the State Board of Health.——Dr. Charles F. Smith, Whitehall, has moved to 2587 Woodward Avenue, Detroit, and entered general practice.

Sanatorium to be Built.—The board of supervisors of Genesee County have voted an appropriation of $1,000 for a county tuberculosis sanatorium to be erected south of Flint.

General Hospital Staff Appointed.—The following announcements of appointments to the medical staff of the Detroit General Hospital are announced by Dr. John N. E. Brown, superintendent: department of internal medicine—director, Dr. Frank J. Sladen, Baltimore; Dr. Homer E. Safford, senior associate; general surgery—director, Dr. H. N. Torrey; senior associate, Dr. H. W. Hewitt; diseases of children—director, Dr. R. S. Rowland; senior associate, Dr. T. B. Cooley; associate, Dr. D. J. Levy; abdominal and pelvic surgery—director, Dr. William F. Metcalf; senior associate, Dr. E. K. Cullen; diseases of ear, nose and throat—director, Dr. J. E. Gleason; genito-urinary surgery—director, Dr. Harry W. Plaggemeyer; obstetrician, Dr. W. H. Morley; orthopedic surgery, Dr. F. C. Kidner; diagnosis and research—director, bacteriologist and pathologist, Dr. C. R. Meloy, and roentgenologist, Dr. W. A. Evans.

MINNESOTA

Wholesale Typhoid Vaccination.—The Fergus Falls State Hospital has undertaken typhoid inoculation on a large scale. All the seventeen hundred inmates of the institution are to be inoculated.

Millard Hall Completed.—Millard Hall, the main building of the medical and surgical department of the University of Minnesota, is practically completed and has been turned over by the contractors. The entire cost of the building has been $259,202.

Personal.—Dr. H. A. Tomlinson, superintendent of the State Inebriate Hospital, Willmar, is reported to have suffered a cerebral hemorrhage.——Dr. W. T. Councilman of Harvard Medical School lectured, February 25, at the University of Minnesota, Minneapolis, on "The Nature of Disease."

Tribute to Late Colleague.—The faculty of the College of Medicine and Surgery of the University of Minnesota has recorded its sorrow for the loss of the late Dr. Parkes Ritchie, an old friend and faithful associate, in the form of a memorial engrossed for presentation to Dr. Ritchie's family.

MISSISSIPPI

New Officers.—Tri-County (Tate-Panola-DeSota) Medical Society was organized at Senatobia, February 5: president, Dr. M. C. Ellis; secretary-treasurer, Dr. D. C. Laverne, both of Senatobia.——Hinds-Rankin County Medical Association organized at Jackson: president, Dr. R. S. Curry, Jackson; secretary-treasurer, Dr. J. H. Fox, Asylum.

Personal.—Dr. Ethelbert H. Galloway, Jackson, has been elected executive secretary of the State Board of Health, vice Dr. W. W. Smithson, appointed superintendent of the State Insane Hospital, Jackson.——Dr. L. H. Howard, Jackson, was robbed by hold-up men near his home, February 10.——Dr. Nolan Stewart, superintendent of the State Insane Hospital, Jackson, has resigned.

MISSOURI

Personal.—Dr. Elizabeth Enz, Kansas City, who has been ill with neurasthenia, has gone to Florida.——Dr. E. C. Hill, St. Joseph, is reported to be seriously ill at his home.——Dr. Daniel Martin, St. Joseph, has been appointed a member of the board of managers for the St. Joseph Hospital for Tuberculosis.

To Investigate Sanatoriums.—At a special meeting of the Kansas City Hospital and Health Board, February 11, a committee was appointed consisting of two doctors and one layman to investigate all sanatoriums in the city with especial reference to the care and treatment of patients therein, and the provision for safeguarding patients against fire and other casualty.

Gift to Medical College.—The Pagel collection of books on the history of medicine, being the library of the late Prof. Julius Pagel, has been given to the Medical Department of Washington University through the generosity of a friend of the institution. The library is now on the way to this country and will be catalogued. It contains about 2,500 titles and is varied enough to form a valuable nucleus for a library of medical history.

St. Louis

Infectious Hospital Site Not Approved.—The St. Louis Medical Society adopted resolutions endorsing the location of the proposed city infectious hospital as advocated by the Hospital Board, but the bill was defeated three days later in the City Council, 13 to 8.

Division of Diagnostics.—The newly created division of diagnostics of the Health Department has been filled by the following appointments: chief diagnostician, Dr. M. C. Woodruff, and assistant diagnosticians, Drs. J. A. Smith, S. W. Hauck, W. S. Lawrence, C. L. LaBarge, M. P. Morrell, Henry C. Lloyd, J. S. Pope, R. W. Wills, J. O. Farrar and Victor A. Carriere.

Personal.—Dr. A. S. Barnes, Jr., E. Lee Dorsett and Frank Hinchey have been appointed by the St. Louis Medical Society a permanent Red Cross Committee to cooperate with the American National Red Cross.——Dr. L. S. Luton has been elected chairman; Dr. O. H. Brown, vice-chairman; Dr. H. W. Loeb, secretary, and Dr. G. Gellhorn, treasurer of the medical staff of the St. Louis City Hospital.

NEBRASKA

Personal.—Dr. M. W. Baxter, recently appointed superintendent of the Ingleside State Hospital has been seriously ill with gastritis.——Dr. Claude Watson, Nebraska City, has been appointed physician to the State Institute for the Blind.——Dr. W. H. Crutcher, Palmer, has been selected as first assistant physician and Dr. C. W. Charlton, Mooresfield, second assistant physician to the Ingleside Hospital.

NEW JERSEY

In Memoriam.—A memorial tablet to the late Dr. Charles J. Kipp, Newark, was unveiled in the Eye and Ear Infirmary, Central Avenue, Newark, recently. The bronze tablet bears a portrait medallion of Dr. Kipp and an inscription setting forth his services to the infirmary as founder and executive surgeon.

Personal.—Dr. Edgar B. Funkhouser, Trenton, is spending the winter in Munich, Germany.——Dr. J. Boyd Risk and family, Summit, are spending the winter in Bermuda.——Dr. Martin W. Reddan, Trenton, fractured his leg while attempting to crank his automobile, recently.——Dr. William C. Sandy, Jr., assistant physician at the Trenton State Hospital, has resigned.

Hospital Notes.—Plans for a new children's ward for Mercer Hospital, Trenton, are under construction and it is probable that work will be commenced in the early spring. The new wing will be added to the eastern end of the building and will cost about $12,000.——A committee of business men, clergymen and physicians met in Jersey City, February 14, and formulated the plans for raising $10,000 to furnish the new German Hospital which has recently been completed at Boulevard and Warner Avenues at a cost of $20,000. The institution has accommodation for about fifty patients.

NEW YORK

Legislature Gets Recommendations of Health Commission.—Governor Sulzer has sent a message to the legislature embodying the recommendations advised by the special commission appointed to investigate health conditions in this state. Among the recommendations made are the abolition of town and village boards of health and the substitution of a state system of sanitary supervision; fixing the term of the State Commissioner of Health at six years and his salary at $10,000 instead of $5.000 as at present; that he must be either a physician or a recognized authority on public health work and should not be permitted to practice medicine or have any other occupation. It is advised that there be created a State Public Health Council of seven members, including the Commissioner of Health, Commissioner of Labor, one commissioner or other health officer of a city of the first or second class, and three members to be appointed by the governor. This council should have authority to adopt public health regulations, but should not have executive, administrative, or appointive powers. The State Commissioner should exercise supervision over local health authorities and be charged with the enforcement of public health laws. The state should be divided into at least twenty sanitary districts with an expert supervisor in each district. Local officers should be charged with continuous supervision of their districts, examination of school children, inspection of schools and other public places, popular education as to public health and with securing full registration of births and deaths. There are also suggestions in regard to child hygiene, working conditions, registration of vital statistics, etc.

New York City

Laboratory for Experimental Surgery.—A laboratory for experimental surgery has just been opened at the Flower Hospital. Special courses in surgery are offered to the medical profession. Dr. A. L. Soresi has been appointed professor of experimental surgery and director of the laboratory.

Harvey Society Lectures for March.—The Harvey Society announces the following schedule of lectures for March: March 8, Prof. Edward G. Conklin, *Princeton University*, "*The Size of* Organisms and Their Constituent Parts in Relation to Longevity, Senescence and Rejuvenescence;" March 22, Prof. Franz Knoop, University of Freiburg, Germany, "Modern Problems of Nutrition," and March 29, Prof. John Howland, Johns Hopkins University, "The Scientific Basis for the Artificial Feeding of Infants."

Personal.—Dr. I. Epstein, in responding to an ambulance call from the Lebanon Hospital, received severe injuries in a collision, and is reported to be in a precarious condition.——Dr. John H. Huddleston has been appointed manager of the Tuberculosis Hospital at Ray Brook.——Dr. Stephen Smith celebrated the ninetieth anniversary of his birth on February 20.——Dr. José M. Delgado, U. S. P. H. S., Brooklyn, recently underwent an operation at St. Luke's Hospital and his condition, though serious, is said to be encouraging.——Dr. R. Melville Cramer sailed for Europe on February 22.——Dr. Samuel Milbank, instructor of applied pharmacology in the Cornell College of Medicine has resigned; Dr. C. C. Barrows has been made professor of gynecology.——A reception was given by the Manhattan Medical Society, February 28, to Dr. Jacques Loeb of the Rockefeller Institute at which he spoke on "Some Recent Experiments in Artificial Parthenogenesis."

Semi-Centennial of Obstetric Society.—On February 14 the New York Obstetric Society celebrated the fiftieth anniversary of its founding by a dinner, at which about ninety were present. Dr. George G. Ward, Jr., acted as toastmaster. There were present as guests of the society: Drs. Abraham Jacobi, New York City; Matthew D. Mann, Buffalo; E. P. Davis, Philadelphia; Edward Reynolds, Boston; Frank F. Simpson, Pittsburgh; G. M. Boyd, Philadelphia; William M. Sprigg, Washington, and Albert M. Judd, Brooklyn. Portraits of Dr. Thomas Cook, the first president of the society; Drs. J. Marion Sims, Edward E. Peaslee, T. Addis Emmet, J. Gaillard Thomas, William C. Lusk, Alexander J. C. Skene, Emil Noeggerath, Paul F. Munde and Josiah Knox were shown on the screen and were responded to by members of the society. A brief history of the society was given by Drs. J. Riddle Goffe and Dr. William S. Stone. Addresses were also made by Drs. E. W. Davis, Edward Reynolds, J. Whitridge Williams and Abraham Jacobi.

OKLAHOMA

Personal.—Dr. A. B. Leeds, Chickasha, has been appointed grand medical examiner of the A. O. U. W. of the state.——Dr. J. D. Ballard, Oklahoma City, has resigned as assistant state examiner and inspector.——Dr. William J. Jolly has succeeded Dr. Robert F. Williams, Jr., as dean of the faculty of the Medical Department of Oklahoma University, Oklahoma City.——Dr. O. C. Coppedge, Bristow, has been appointed health officer of Creek County.

New Officers.—Seventh Councilor District Medical Society at Muskogee: president, Dr. W. A. Tolleson, Eufaula; secretary-treasurer, Dr. A. B. Montgomery, Muskogee.——Logan County Medical Society at Guthrie: president, Dr. Fred Y. Cronk; secretary-treasurer, Dr. J. Lewis Day, both of Guthrie.——Central Oklahoma Medical Society at Enid: president, Dr. T. M. Aderhold, El Reno; secretary-treasurer, Dr. J. M. Cooper, Enid. El Reno was selected as the next place of meeting.

OREGON

Physicians' Building for Portland.—A twelve-story building which is being erected in Portland, for the exclusive use of physicians and dentists, is almost completed and will be ready for occupancy in the spring.

Honor Senator-Elect.—Dr. Harry Lane, Portland, United States senator-elect from Oregon, was given a banquet by members of the Portland Medical Society, February 6, at which eloquent tributes were paid to the worth of Dr. Lane as a citizen, a physician and a public official. Dr. W. T. Williamson presided as toastmaster.

PENNSYLVANIA

Sanatorium Site Selected.—The City Council of Pittsburgh on February 17 voted to erect a municipal tuberculosis hospital on the Leech Farm, an addition to Highland Park.

Personal.—Dr. P. Y. Eisenberg was recently elected president of the Norristown Charity Hospital Association.——Dr. Victor S. Messinger was elected president and Dr. W. Gilbert Tillman, secretary, at a recent meeting of the Physicians' Protective Association of Easton.——Dr. J. W. Ellenberger, Harrisburg, has returned from Europe.——Dr. Olin K. McGarrah, Altoona, was thrown from his automobile on an icy pavement, but escaped with a few bruises.

Philadelphia

Resolutions on Death of Dr. Steinbach.—The faculty of the Philadelphia Policlinic on February 17 adopted resolutions setting forth the notable services of Dr. Lewis W. Steinbach who was "a skilled and learned surgeon and ophthalmologist and successful internist and in addition possessed exceptional personal characteristics, standing for good morals, highest ideals and the soundest of personal and professional ethics."

Personal.—Dr. William R. Nicholson has been appointed visiting gynecologist to the Methodist Episcopal Hospital.——Dr. Matthew Woods has been elected president of the Philadelphia Society of Arts and Letters.——Dr. J. Solis-Cohen was the guest of honor at the banquet of the Mount Sinai Hospital Alumni Association, New York, February 22.——Dr. S. Weir Mitchell, Philadelphia, celebrated his eighty-fourth birthday on Saturday, February 15.——Dr. L. J. Hammond, retiring president of the Philadelphia County Medical Society was presented with a gold-mounted gavel by members of the society. February 12.——A silver loving-cup was presented to Dr. John B. Deaver, February 14, at a meeting of the John B. Deaver Surgical Society on the occasion of its fifteenth anniversary.

University Day.—Gov. Phillips Lee Goldsborough of Maryland, delivered the annual oration on University Day, February 22. A portrait of Dr. DeForest Willard, by William Chase, was presented by Dr. Gwilym G. Davis, and was accepted by Provost Edgar Fahs Smith on behalf of the board of trustees. Immediately after the exercises, the provost and the trustees entertained the special guests at luncheon and in the afternoon the annual University Day Tea was held. In the evening the twenty-first annual dinner and smoker of the Philadelphia Alumni Society of the University Medical Department was held and was attended by more than six hundred. The sum of $500 was voted for the establishment of a scholarship at the University Medical School, to be known as the Roland G. Curtin scholarship, in honor of Dr. Roland G. Curtin, who is now seriously ill. According to the provisions of the resolution, additional sums will be added to the original $500 each year until the total is sufficient to support the scholarship. At the annual election of the society Dr. Clarence P. Franklin was elected president, and Dr. William S. Wray, recording secretary.

UTAH

Personal.—Dr. C. C. Snyder has been appointed physician, Dr. W. N. Pugh, assistant physician, and Dr. E. F. Chamberlain, pathologist, of Salt Lake County.

Fire in Sanatorium.—The Ogden Sanatorium, three miles east of Ogden, was completely destroyed by fire, February 12, with a loss estimated from $30,000 to $40,000 partially covered by insurance. The building is owned by the Ogden Mineral Springs Company.

New Officers.—Uintah County Medical Association at Vernal, February 6: president, Dr. George H. Christy; secretary-treasurer, Dr. Homer E. Rich, both of Vernal.——Weber County Medical Association at Ogden: president, Dr. A. A. Robinson; secretary-treasurer, Dr. Carlyle K. McMurdy, both of Ogden.

VIRGINIA

Personal.—Dr. St. Julian Oppenhimer has been elected police surgeon of Richmond.——Dr. R. D. Wolfe has been elected medical superintendent of the Norfolk Protestant Hospital.——Dr. Julian M. Robinson has been elected city physician of Danville and Dr. W. E. Jennings has been made a member of the local board of health.

Visitors Appointed.—Governor Mann has appointed the nineteen members of the board of visitors to direct the affairs of the Medical College of Virginia which recently entered into a merger with the University College of Medicine. The visitors designated by the Medical College of Virginia are: Drs. T. H. Barnes, Suffolk; G. F. Bowie, Fredericksburg; J. B. Fisher, Midlothian; William L. Harris, Norfolk, and H. S. Myers, Forks of Buffalo, and Messrs. E. L. Bemis, Richmond; C. P. Cardwell, Hanover; John S. Harwood, Richmond, and J. D. Johnstown, Roanoke. Those designated by the University College of Medicine are: Drs. Paulus A. Irving, Farmville; and Robert C. Randolph, Boyce, and Messrs. George L. Christian, L. Z. Morris, E. D. Taylor, H. L. Cobell, Thomas L. Moore, William R. Miller and John Johnson, Alexandria; and the appointment of Mr. Eppa Hunton, Jr., was mutually agreed on by both institutions.

WASHINGTON

State Board Meeting.—At the annual meeting of the State Board of Health held in Olympia, it was voted to adopt regulations regarding the sanitary conditions of railroad cars, and the proposed laws to protect the water-supply of municipalities were discussed.

New Officers.—Spokane County Medical Society at Spokane: president, Dr. E. B. Nelson; secretary, Dr. Carl H. Weisman, both of Spokane.——Pierce County Medical Society at Tacoma: president, Dr. C. S. Wilson; secretary, Dr. O. E. Sutton, both of Tacoma.——Yakima County Medical Society at North Yakima: president, Dr. R. S. Weyer; secretary, Dr. H. H. Skinner, both of North Yakima.——King County Medical Society at Seattle: president, Dr. J. C. Moore; secretary-treasurer, Dr. Henry D. Brown, both of Seattle.

Personal.—Dr. Frank Hinman, city bacteriologist of Spokane has been appointed assistant to Dr. Hugh H. Young on the surgical staff of Johns Hopkins Hospital.——Dr. Willis H. Corson, formerly superintendent of the King County Hospital at Seattle, has been appointed assistant county health officer and will be in charge of the southern half of the county, Health Officer Sparling taking charge of the northern section.——Drs. J. R. Yocom, Tacoma; H. M. McLaughlin, Seattle; W. C. Cox, Everett; A. L. MacLennan, Raymond, and F. W. Anderson, Tacoma, have been appointed examining physicians of the Industrial Insurance Commission on recommendation of Dr. J. W. Mowell, Olympia, chief physician.——Dr. E. J. McCausland has been elected president of the State Board of Health and Dr. E. R. Kelly, Seattle, has been elected secretary.——Dr. J. M. Semple, for four years superintendent of the Medical Lake State Hospital, is reported to have resigned.

GENERAL

New Officers.—Tri-State Medical Society of Virginia and the Carolinas, at Norfolk, February 20-21: president, Dr. Southgate Leigh, Norfolk; vice-presidents, for Virginia, Dr. Stephen Harnsburger, Catlett; for North Carolina, Dr. E. Reid Russell, Asheville; for South Carolina, Dr. J. H. Taylor, Columbia, and secretary, Dr. Rolfe E. Hughes, Laurens, S. C.——Fox River Valley Medical Society, at Green Bay, February 18: president, Dr. F. Gregory Connell, Oshkosh; secretary, Dr. R. H. Sweetman, Green Bay.

Infectious Diseases.—The infectious diseases, including small-pox, scarlet fever, measles and whooping-cough, have continued to be prevalent throughout the United States, particularly east of the Rocky Mountains, throughout February, but with considerable abatement as compared with January. In many cases the schools have been closed for brief periods. In no instance has any of these diseases assumed the form of a serious epidemic and the local authorities, by vigorous measures, have been able to control the situation. In Philadelphia, however, from 600 to 800 cases of measles have occurred each week during the month. Philadelphia and Baltimore in the East and Berkeley, Cal., in the West, have been centers of small-pox. At Fort Wayne, Ind., 28 cases broke out in the State Institution for the Feeble-Minded and at Evansville, Ind., a small epidemic occurred, which caused the authorities to close the schools. Considerable opposition arose to the orders of the health board excluding children from the schools who were not vaccinated and the matter was taken to the courts. Parochial schools refused to comply with the regulations of the board and they were closed by the police. In a decision refusing to sustain the demurrer of the antivaccinationists to the answer of the city to the complaint filed against the health board the local court held that the power of the health board to require vaccination was probably questionable but that the board had undoubted authority to determine whether an epidemic existed. Opposition to vaccination in Philadelphia and Baltimore flattened out and vaccination was vigorously enforced in the epidemic area. In Berkeley, Cal., the seat of California University, considerable opposition developed from the antivaccinationsts, who seemed to be supported by the League for Medical Freedom. Berkeley is one of the strongholds of the league. As an argument against vaccination, one of the papers supporting the antivaccinationists stated that in the pure air and sunshine of California no epidemic diseases could exist; but that did not prevent the city from having a large number of cases of small-pox. The meningitis situation in the South is much improved, nothing resembling an epidemic being present in any locality. There are a few cases, however, in several of the Southern states.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 7, 1913.

International Saccharin Conference

The opening session of the international conference for regulating the use of saccharin and like substances took place in Paris, February 3, under the presidency of Dr. F. Bordas, head of the laboratories of the treasury department. This conference will consider anew the plan agreed on at the first international conference assembled for this purpose in 1909. The present conference will be participated in by representatives of Germany, Austria-Hungary, Belgium, France, Greece, Holland, Italy, Portugal, Russia and Switzerland.

Treatment of Pregnant Syphilitic Women by Salvarsan

At a recent meeting of the Société médicale des hôpitaux de Paris, Dr. Jeanselme read an interesting paper on this subject. In the past two years all pregnant syphilitic women in his service have been given intravenous injections of salvarsan in doses of 0.2, 0.3 and 0.4 gm. From four to six injections were given in each case, and were renewed from week to week. Fourteen women who presented signs of recent and active syphilis during their pregnancy were treated by this method. All were delivered at term of living infants, which were as a rule of normal weight. No signs of hereditary syphilis were found in any of these infants. While four died shortly after birth, death was caused by accident. Two women with cases of syphilis of long standing, who had formerly had numerous miscarriages, stood their pregnancy well. Dr. Jeanselme concludes that salvarsan has no unfavorable effect in pregnancy, and even exercises a favorable influence.

The Abuse of Narcotics

Owing to poisoning by cocain and morphin, of which I have already written (THE JOURNAL, Jan. 25, 1913, p. 298), the public prosecutor has instructed police officers in the Department of the Seine to enforce all the regulations concerning the sale of poisonous substances. Each time that a police officer is called in cases of violent death, wounds or illnesses which appear to have been provoked by the abuse of morphin, cocain, opium or other poisonous substance, he is to take pains to ascertain by whom and in what shape the poisons were sold. Officers are reminded that they have the authority to enter places where these drugs are sold, provided that they are accompanied by a physician or a chemist named by the prefect of police.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 7, 1913.

Friedmann's Treatment of Tuberculosis

My criticisms of two weeks ago on the Friedmann treatment of tuberculosis have received a gratifying endorsement in a statement of Bier, director of the Berlin surgical clinic, at the last meeting of the Berlin Medical Society. Heretofore Bier had continually been receiving inquiries from foreign countries, especially America and Spain, whether or not the new remedy is really so effective as he was alleged to have publicly stated, according to the newspapers of the respective countries. Finally last week a military officer from Huelva brought his tuberculous daughter to Bier. They came as a result of a report in the *Diario de Huelva*, which was much more encouraging than the exceedingly non-committal remarks of Bier had warranted. Bier searched in vain in the *Diario de Huelva* for any of the weighty objections which were expressed in connection with that discussion by some of the most prominent physicians.

It is apparent, therefore, that if this remedy should not prove effective, which has been the experience in many previous similar instances, the result will be a considerable injury to the reputation of German medical science and the medical profession, as it was announced everywhere in the foreign press, without contradiction, that the most prominent German medical society, the Berliner medizinische Gesellschaft, consisting of well-known Berlin physicians, had endorsed the remedy.

Bier concluded as follows: "I must therefore publicly protest against the misuse of my name for the recommendation of a remedy of whose effectiveness I have so far no evidence. I hope that this statement may find its way into the foreign press as quickly and as widely as my alleged recommendation of the treatment. It should also relieve me of the burden of constantly answering letters and stating that I have seen as yet no evidence of any unusual curative action of Friedmann's treatment."

Three Conferences on Infant Welfare

Last week three successive meetings on the care of infants were held in Berlin. A commission chosen by the department of the interior to consider the training of nurses for infants, held its meeting, January 29, in the Kaiserin Augusta Victoria Institution for the Reduction of Infant Mortality in the German Empire, for the purpose of establishing a uniform standard for such training. The speakers were Langstein of Berlin and Ibrahim of Munich.

TRAINING OF NURSES FOR INFANTS

The following resolutions were adopted: 1. It is necessary to make a distinction between the training of nurses for sick infants and nursemaids tending healthy children in a family. 2. The length of time for the training of nurses for the care of sick infants is set at two years. At least one of these two years must be devoted to the care of infants and children. 3. The training shall be completed by an examination which is to be passed in one of the public institutions. After this the nurse is granted a state diploma, which is issued on the basis of her previous training in the general care of the sick. The length of training required by the state for this purpose is one year, but it can be limited, under certain circumstances, to six months. 4. The training and examination in the care of infants may be carried on only by institutions for infants, children's hospitals or children's wards where the care of infants is in accordance with the most modern ideas and which are under the direction of a specialist. Children's hospitals with appropriate material (older children, surgical wards) are also entitled to give the training in the general care of the sick. 5. In granting the diploma, not the time spent by the applicant in the practical care of infants, but the time devoted to training and also the institutions in which she received her training should be considered. In case of doubt, a proof as to ability must be furnished by an examination in one of the approved institutions. 6. Uniform regulations shall be adopted for the training of nursemaids of healthy children. This training, which requires at least six months, may be carried on only in those homes for infants, children's hospitals or wards which employ the most advanced, modern ideas in the care of infants, and which are under the supervision of a pediatrist, and are approved by a commission appointed by the German League for Infant Welfare. The training is to be concluded by an examination in one of these institutions. 7. A commission shall be appointed for the purpose of outlining a uniform system of training.

DAY NURSERIES

In the same place next day this was followed by another large meeting of delegates from all over Germany representing societies which maintain day nurseries. Dr. Boehm of Frankfort-on-the-Main and Dr. Rott of Berlin discussed the development of the crèche societies, whose functions are continually growing in importance in view of the growth of the cities, the increasing numbers of women wage-earners and the diminishing birth-rate. The speakers emphasized that the day nursery system should be fostered and extended.

The next task is to make the day nurseries conform to the requirements of the modern care of infants, which often is not the case, partly on account of ignorance, partly as a result of inadequate means. It was therefore decided to organize a league of the German day nursery societies, whose aim will be to unite existing societies, organize new societies, and endeavor with advice and example to improve conditions generally. This league is to be combined with the German League for Infant Welfare. It is to be known as the Deutscher Krippenverband.

The third meeting was a regular session of the members of the Prussian Central Association for the Protection of Infants, the Landeszentrale für Säuglingsschutz. After the annual and financial reports were attended to, the preparations for the second Landeskonferenz, which will be held March 26 this year, were discussed. This meeting will take place in the great hall of the upper house. Rep presented on the importance of aiding nursin n the syste giving premiums to promo on matized welfare work for

Association News

THE MINNEAPOLIS SESSION

Meetings in University of Minnesota Buildings—Entertainments at Club-Houses on the Lakes

At the Minneapolis session, the section meetings are to be held on the university campus in the various buildings of the University of Minnesota. The campus is located between Minneapolis and St. Paul on the river bank in a restful spot away from the dust and dirt of the cities. Several street-car lines running between Minneapolis and St. Paul pass through or near the campus. Therefore the hotels of both cities may be utilized.

This location is an especially advantageous place for a meeting because of the many halls which are so arranged that they can be supplied with lanterns, microscopes, etc. To avoid the necessity of returning to the hotel at noon, luncheon will be served in the buildings on the campus. It is planned to hold the section entertainments at the various country clubs situated on the lakes around the Twin Cities. The local Committee on Arrangements is making special effort to feature the Scientific Exhibit, and the new anatomic building of the Medical Department of the University of Minnesota is to be used for this display.

THE TRUSTEES' MEETING

Elections by the Board of Trustees

At the regular meeting of the Board of Trustees of the American Medical Association, February 21, Dr. George Dock, St. Louis, was reelected as a member of the editorial board of the *Archives of Internal Medicine.*

Dr. L. E. Holt, New York, was elected for one year to succeed Dr. Abraham Jacobi of New York, resigned, on the the editorial board of the *American Journal of Diseases of Children.*

Drs. J. A. Capps, Chicago; David L. Edsall, Boston, and R. A. Hatcher, New York, were reelected as members of the Council on Pharmacy and Chemistry.

Marriages

Naaman J. Karagulla, R.A.M.C., Mardin, Asiatic Turkey, to Miss Stella Emily Toal, at Baltimore, February 3.

Charles R. Castlen, M.D., M. C., U. S. Army, to Miss Lura Marega Galbraith of Seattle, Wash., January 20.

Lucius L. Hopwood, M.D., M. C., U. S. Army, to Miss Audentia Hansen at Alameda, Cal., February 4.

Dana Cecil Post, M.D., U. S. Navy, to Miss Helen McEwen Dick of Washington, D. C., February 6.

Arthur Joseph Bedell, M.D., Albany, N. Y., to Miss Bessie Wilson of New York City, February 12.

David Pollock McCune, M.D., to Miss Lena Frances Walker, both of McKeesport, Pa., January 2.

Arthur Mitchell Gregg, M.D., to Miss Myra Ryland Grigg, both of Joplin, Mo., February 10.

Edwin Cobb, M.D., Iowa City, Iowa, to Miss Mildred Brown of Manchester, Iowa, February 8.

Adolph Herman Nahman, M.D., to Miss Anna Ascher, both of San Francisco, May 5, 1912.

Philip Rexford Waughop, M.D., to Miss Nellie Kloss, both of Seattle, Wash., February 4.

Arthur John Light, M.D., to Miss Mathilda M. Eichenhorse, both of Cincinnati, recently.

Efficacy of So-Called Remedies for a Disease in Inverse Proportion to Their Number.—You may take it as a rule that when an enormous number of remedies are recommended for any disease we do not know what the remedy really is.—W. Hale White in *Clin. Jour.*

Deaths

Flavius Josephus Van Vorhis, M.D. Rush Medical College, 1866; of Indianapolis; assistant surgeon of Volunteers during the Civil War; a graduate in law of 1880 and a state senator from 1881 to 1883; a pioneer in health legislation; who drafted and secured the passage of the law creating the first state board of health; died in the Methodist Episcopal Hospital, Indianapolis, February 9, three weeks after an operation for the removal of gall-stones, aged 72.

Samuel Whitfield Hartt, M.D. College of Physicians and Surgeons, Baltimore, 1889; formerly a member of the Duquesne County (Pa.) School Board; later a member of the Port Angeles (Wash.) School Board; and thereafter chief of staff in the surgical department of the Denver County Hospital for two years; died at his home in Seattle, February 5, from pleurisy complicating pneumonia, aged 47.

Henry Ellsworth Locher, M.D. Long Island College Hospital, Brooklyn, 1877; formerly professor of therapeutics in Grand Rapids (Mich.) Medical College and of chemistry in the Grand Rapids Veterinary College; president of the Board of Health of Grand Rapids; a member of the school board for eighteen years and for two terms its president; coroner of Kent County from 1880 to 1888; died at his home in Grand Rapids, February 9, from nephritis, aged 62.

Charles O'Neil Dunlap, M.D. Columbus (Ohio) Medical College, 1878; a member of the Ohio State Medical Association; for many years secretary of the Vinton County Medical Society; first assistant physician at the Athens State Hospital from 1886 to 1891 and superintendent of the institution from 1891 to 1896; died at his home in McArthur, February 13, from interstitial nephritis, aged 56.

James Reagles, M.D. Bellevue Hospital Medical College, 1864; captain, M. C., U. S. A., retired; assistant surgeon of the Sixty-Second Volunteer Infantry during the Civil War; in 1872 a member of the United States Geological Survey; who served in Porto Rico during the Spanish-American War; died at his home in Schenectady, N. Y., February 10, from pneumonia, aged 71.

Josephus Robert Lemen, M.D. Missouri Medical College, St. Louis, 1875; formerly professor of diseases of the chest in St. Louis University; consulting physician and chief-of-staff of Deaconess Hospital and consulting physician to the Rebekah Hospital, St. Louis; at one time a member of the St. Louis Board of Health; died at his home, February 15, from heart disease, aged 59.

John A. Barry (license, ten years of practice, Michigan, 1900); a member of the Michigan State Medical Society; a member of the State Legislature from 1906 to 1908; for ten years chairman of the Wexford County board of supervisors; superintendent of the poor and president of the village of Harriette; died at his home, February 9, from cerebral hemorrhage, aged 64.

Benjamin Cheever, M.D. New York University, New York City, 1891; city physician of Portsmouth, N. H., and health officer of Rockingham County from 1893 to 1895; died at his home in Portsmouth, February 14, from the effects of a gunshot wound, self-inflicted, it is believed with suicidal intent, while mentally unbalanced on account of an attack of influenza, aged 43.

George H. Witter, M.D. College of Physicians and Surgeons, Baltimore, Md., 1885; a member of the American Medical Association; state senator from the forty-fourth district of New York State from 1908-1910 and state committeeman for six years; died at his home in Wellsville, February 13, aged 54.

John S. Potts, M.D. American Medical College, Eclectic, St. Louis, 1875; College of Physicians and Surgeons, Keokuk, Iowa, 1877; a member of the Medical Society of the State of California; for fifteen years a practitioner of San Francisco; died in Los Angeles, February 9, from nephritis, aged 72.

Adolph O. Bjelland, M.D. University of Minnesota, Minneapolis, 1896; a member of the American Medical Association; formerly health officer of Mankato, Minn.; local surgeon for the Chicago and Northwestern System; died at his home in Mankato, February 14, from pneumonia, aged 42.

John Eberle Chitwood, M.D. Cincinnati College of Medicine and Surgery, 1864; assistant surgeon of the Thirteenth Indiana Volunteer Cavalry during the Civil War; until 1909 a practitioner of Connersville, Ind.; died at his home in Indianapolis, February 8, from heart disease, aged 68.

George Clinton Jeffrey, M.D. Pulte Medical College, Cincinnati, 1875; for eighteen years attending surgeon and later consulting surgeon to the Cumberland Street Hospital, Brooklyn; surgeon to the Memorial and Prospect Heights hospitals; for a time surgeon of the Jamaica Hospital and surgeon to the Brooklyn and Queens County Suburban Railway; died at his home in Brooklyn, February 11, from heart disease, aged 61.

Julius Silberstein, M.D. St. Louis College of Physicians and Surgeons, 1891; a member of the American Medical Association; for twenty years a member of the United States Indian Service; a veteran of the Austrian-Turkish War and of the Indian campaign against the Lame Deer Band in 1886; died at his home in Sacaton, Ariz., January 16, aged 53.

Hamilton Kemp Derr, M.D. University of Maryland, Baltimore, 1881; a member of the American Medical Association; for twelve years treasurer of the Washington County Medical Association; local surgeon at Hagerstown for the Western Maryland Railroad; died at his home, February 5, from heart disease, aged 60.

James Alan Neville, M.D. George Washington University, Washington, D. C., 1910; formerly an intern in the United States Marine Hospital, Chicago; superintendent of the Iroquois Memorial Hospital, Chicago; died in that institution, February 20, from pneumonia, aged 28.

Joseph T. Coveny, M.D. College of Physicians and Surgeons, St. Joseph, Mo., 1882; at one time assistant superintendent of Buchanan County Insane Hospital, St. Joseph; for fourteen years a practitioner of Oskaloosa, Iowa; died at his home, February 5, from bronchitis, aged 53.

Arthur Bascom Loving, M.D. University of Louisville, Ky., 1874; a member of the Arkansas Medical Society; a Confederate veteran; for several years physician of Jefferson County; died at his home in Pine Bluff, February 13, from diabetes, aged 68.

George William Carrington, M.D. University of Virginia, Charlottesville, 1859; New York University, New York City, 1861; a surgeon in the Confederate service throughout the Civil War; died at his home in Richmond, Va., February 4, aged 74.

Maria S. Gilmore Pontius, M.D. Columbus (Ohio) Medical College, 1883; a member of the American Medical Association; died at her home in Canton, Ohio, from the result of injuries received in an automobile accident nearly two years before, aged 55.

A. S. Simmons, M.D. Graffenberg Institute, Dadeville, Ala., 1861; of Grand Saline; a practitioner of Texas since 1870; formerly vice-president of the First National Bank of Wetherford; died in a sanatorium in Fort Worth, February 14, aged 76.

Samuel Souders, M.D. Bellevue Hospital Medical College, 1871; a member of the Ohio State Medical Association; and a practitioner for more than half a century; died at his home in Beavertown, Ohio, February 9, from senile debility, aged 82.

Hiram G. Nelson, M.D. Cincinnati College of Medicine and Surgery, 1864; for many years a practitioner of Jennings County, Ind.; died at the State Foresters' Home, Greenburg, February 6, from cerebral hemorrhage, aged 74.

Manuel Garcia Monteiro, M.D. College of Physicians and Surgeons, Boston, 1890; formerly a prominent Portuguese practitioner of New Bedford, Mass.; died at his home in Cambridge, February 7, from pneumonia, aged 54.

Mason S. Seymour, M.D. Vermont Medical College, Woodstock, 185—; for many years a practitioner of Waterbury, Conn., and Flushing, L. I.; died in the Flushing Hospital, February 5, from senile debility, aged 85.

William Foster Ganster, M.D. Long Island College Hospital, Brooklyn, 1896; a member of the American Medical Association; died at his home in Brooklyn, February 11, from the effects of a nervous breakdown, aged 47.

James Atwood Tabor, M.D. Eclectic Medical Institute, Cincinnati, 1879; Boston University School of Medicine, 1883; formerly of Lawrence, Mass., and later of Corinna, Maine; died in Bangor, February 13, aged 54.

John McClellan Lacy, M.D. University of Nashville, Tenn., 1861; a pioneer practitioner of Santa Ana, Cal.; surgeon in the Confederate Service during the Civil War; died at his home in Santa Ana, February 3, aged 75.

Kimmel Rauch, M.D. Eclectic Medical Institute, Cincinnati, 1899; of Johnstown, Pa.; died in the Johnstown City Hospital, February 11, from gangrene of the intestine a week after an operation for appendicitis, aged 40.

Ebenezer L. McKinnie, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880; of Colorado Springs; a member of the Colorado State Medical Society; physician of El Paso County for six years; died February 13, in Los Angeles, Cal., where he had gone on account of his health, aged 64.

James F. Duffy, M.D. University of Vermont, Burlington, 1891; of Providence, R. I.; a member of the American Medical Association; died in the Providence Hospital, February 8, from heart disease, aged 62.

William H. Campbell, M.D. Washington University, St. Louis, 1856; for more than half a century a practitioner of Missouri; died at his home in Kansas City, February 7, from senile debility, aged 83.

Elmer Ellsworth Moore, M.D. Dartmouth Medical School, Hanover, N. H., 1886; a member of the American Medical Association; died at his home in East Providence Center, R. I., January 30, aged 51.

William R. Hoch, M.D. University of Pennsylvania, Philadelphia, 1880; a Denver specialist on diseases of the throat, nose and ear; died at his home in that city, Dec. 7, 1912, aged 56.

Brookfield Gard, M.D. Eclectic Medical Institute, Cincinnati, 1865; one of the oldest practitioners of Fort Wayne, Ind.; died at his home, February 2, from cerebral hemorrhage, aged 80.

Edgar W. Smallwood, M.D. Jenner Medical College, Chicago, 1910; for eight years one of the staff photographers of the *Daily News*; died at his home in Chicago, February 18, aged 40.

Edward Lyman Washburn, M.D. Yale University, New Haven, Conn., 1865; for many years a druggist of New Haven; died at his home, February 10, from arteriosclerosis, aged 73.

Samuel H. Sturgeon, M.D. Medical College of Ohio, Cincinnati, 1873; died at his home in Akron, Ohio, February 11, from septicemia following a fracture of the toe, aged 64.

Horace Edwin Harmon, M.D. Sioux City (Iowa) College of Medicine, 1902; a practitioner since 1897; died at his home in Jeffers, Minn., February 2, from pneumonia, aged 39.

Calvin Wesley Smith, M.D. State University of Iowa, Iowa City, 1878; a member of the Iowa State Medical Society; died at his home in Muscatine, February 9, aged 67.

Joseph M. De Trana, M.D. Rush Medical College, 1892; of Chicago; died in the Presbyterian Hospital in that city, February 11, from hemorrhage into the pons, aged 46.

Ernest Ensign Banker, M.D. Cornell University, New York City, 1903; of Clermont, Fla.; died in a private hospital in Orlando, Fla., February 1, from typhoid, aged 32.

Isaac W. Douglass, M.D. Cincinnati College of Medicine and Surgery, 1864; a veteran of the Civil War; died at his home in Michigantown, Ind., about February 5.

Holman M. Freeman, M.D. Atlanta (Ga.) Medical College, 1876; died at his home near Carnesville, Ga., February 1, from cerebral hemorrhage, aged 60.

George A. Brown, M.D. University of Nashville, Tenn., 1855; died at his home near Mooresville, Tenn., about February 3, from senile debility, aged 84.

Amos Clyde Staley (license, Illinois, 1897); an experimental chemist of Chicago; died suddenly in his laboratory in that city, February 18, aged 43.

Rodney Y. Sheppard, M.D. University of Louisville, Ky., 1891; died at his home in Louisville, February 7, from nephritis, aged 46.

John Willett Pease, M.D. College of Physicians and Surgeons, Boston, 1906; died at his home in Cambridge, Mass., February 4, aged 35.

Thomas S. Lloyd, M.D. Medico-Chirurgical College of Philadelphia, 1901; died at his home in Shamokin, Pa., February 1, aged 34.

George B. Smith, M.D. Kansas City (Mo.) Medical College, 1880; of Brussels, Ill.; died in Los Angeles, Cal., February 7, aged 60.

Adam Mackay, M.D. University of Louisville, 1889; died in Wesley Hospital, February 11, from the effects of exposure, aged 63.

Daniel Curley Ross, M.D. Jefferson Medical College, 1907; died at his home in Ambridge, Pa., January 20, aged 30.

William Webb Underhill, M.D. F [illegible] th [illegible] University, 1898; died in Berkeley, Cal. [illegible]

James C. Frazier (license, Mi [illegible] in Gallatin, February 11, from [illegible]

The Propaganda for Reform

PA-PAY-ANS (BELL)

Baking Soda and Charcoal as a Panacea

Dr. W. W. Harper, Selma, Ala., received a postal card from Bell & Company (Inc.) extolling their nostrum, Pa-pay-ans (Bell). The card seems to have impressed Dr. Harper in a way that it ought to impress—but unfortunately does not—every intelligent physician. He writes in part:

> *To the Editor:*—I enclose a postal card which I received some time since. Will you please have the Council on Pharmacy and Chemistry make an analysis of this wonderful (!) remedy that so speedily cures cases of indigestion! . . .
>
> It is an insult to the intelligent members of the profession for Bell & Co. to send over their signature such slush as is written on the enclosed card.
>
> I look on The Journal as a great exponent of what is right and high. The Journal is and has been foremost in denouncing unworthy, proprietary remedies, and I trust that you will continue to do so until they are driven out of the market.

Dr. Harper's indignation is a healthy sign. If the "slush" sent out by Bell had the same effect on all physicians, that firm would conduct a more reputable, if less profitable, business.

While we presume every physician in the country has received a similar card from the Bell concern, we reproduce it for the purpose of refreshing the memory. Here it is:

> "Dear Doctor:—A prominent Tennessee physician, with an exceptionally large practice, writes:
>
> "'As a Christmas gift to you, I want to say that of all remedies that I have used for acute Indigestion, I have found Pa-pay-ans Bell the best—and I will further state that in cases of almost immediate death following an onset of Indigestion—cases where we notice so many men of prominence dying—if their physicians had prescribed Pa-pay-ans Bell—six tablets in half glass hot water, instead of hypos or strychnin, with aromatic spirits of ammonia on the side, there would have been many men at work the following day instead of undergoing preparation by the undertaker for burial.'
>
> "Yours very truly, "Bell & Company (Inc.)."

This advertisement is typical of those sent out by this company—that is, testimonials alleged to have been written by "prominent physicians" of various parts of the United States. The names of the physicians are not given. One doctor who received the Pa-pay-ans Bell testimonial-advertisement decided to call the bluff of Bell & Co. and wrote the concern asking the name of the "prominent Pennsylvania doctor" that Bell & Co. claimed had written the testimonial. This is all the satisfaction he received:

> "We appreciate your little note requesting the name of the Pennsylvania physician whose statement we issued on blotter folders, but in fairness to the men who write us we must withhold their names. No one of any standing in the profession would allow us to publish his name. . . ."

We are glad that Bell & Co. still have a sufficiently high opinion of the medical profession to realize that no physician "of any standing" would allow them to publish his name in connection with a Pa-pay-ans Bell testimonial. And yet we are somewhat surprised that they hold such an opinion. For the ease with which Bell & Co. have been able to "put one over" on our profession must, we believe, have had a tendency to give that concern a very poor opinion of the intelligence of the average physician.

Dr. Harper wants us to make an analysis of Pa-pay-ans Bell. This was done more than three years ago and a rather complete report was issued by the Council on Pharmacy and Chemistry (The Journal, Aug. 14, 1909). In addition to the Council's report, somewhat extended editorial comments were made. The whole matter has been reprinted in the "Propaganda for Reform" book. In our previous exposé, the following facts were brought out:

First, the analysis showed that Pa-pay-ans Bell consisted essentially of sodium bicarbonate, charcoal and ginger sweetened with saccharin and flavored with oil of wintergreen.

Second, Bell and Co. were shown to be closely identified with another concern known as L. D. Johns Co., the president of the Bell concern being the president of the Johns company; the vice-president of Bell & Co. being secretary and treasurer of the Johns company, and the secretary of Bell & Co. being vice-president of the L. D. Johns Co.

The L. D. Johns Co. is one of those pseudomedical concerns that obtains its capital by selling stock to physicians who are not above going into that kind of business. It puts out two tablets: "Dr. Johns Digestive Tablets," which are apparently identical in composition with Pa-pay-ans Bell, and "Dr. Johns Tablets," a laxative pill whose composition apparently, is similar to Cas-car-ans Bell.

Pa-pay-ans Bell, the baking soda-charcoal-ginger tablet, is to be found advertised in these, among medical journals:

New York Medical Journal
Massachusetts Medical Journal
Woman's Medical Journal
International Journal of Surgery

THE UNITED DOCTORS

The History and Methods of a Fake Concern of Advertising Quack Specialists

In the past few years we have repeatedly exposed the monstrous deception and fraud practiced on the public by the "patent medicine" venders and the exploiters of "sure cures". The money wasted on these worthless nostrums amounts to many millions every year, but the harm they do the public can not be conjectured.

Another form of fraud which not only constitutes an enormous tax on the financial resources of the public but which also works an untold amount of harm to its health and welfare is that of the advertising quack whose cupidity, conscience-lessness and pretentiousness constitute a menace almost equal to that of the "patent medicine" business. This form of fraud is less well understood by the public, and it is the intention in this article to describe the characteristics and the methods of one type of these advertising frauds.

The quack has appropriated and practically converted into his exclusive property the name "specialist," which means much to the public. In addition he usually tacks on to the term some high-sounding or significant handle, which he believes will aid him in his plans; thus we have the "Great English Specialists," the "Battle Creek Specialists," the "German-American Specialists," "Associated Medical Specialists," "Union Specialists' Association," "United Specialists," "United Doctors, Specialists," etc., or such designations as "Associated Doctors," "Associated Doctors, Specialists," "Associated Specialists Co.," "German and English Specialists," "Oriental Doctors," "Cleveland Institute of Medicine and Surgery," "Original United Doctors," "Northwestern United Doctors," "Hot Springs Doctors," "Known Doctors," the "United Doctors," etc.

THE UNITED DOCTORS—WHAT THEY CLAIM TO BE

The United Doctors is an organization of quacks whose methods are somewhat different from those of the mail-order quack, on the one hand, and the itinerant "specialist" on the other. The United Doctors establish offices in towns of considerable size and remain there for varying periods of time, from a few weeks to a few months, claiming a new and wonderful system of treatment, which includes the good things from all the so-called "schools" of medicine, etc., and securing new victims by extensive advertising in the local newspapers[1]

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[1] Much of the matter describing the scheme of the United Doctors and a number of illustrations have been omitted from The Journal for lack of space. The complete matter, with additional illustrations, will be printed in a pamphlet, for sale at 4 cents each.

Like all medical fakers the United Doctors make free use of exaggerated or fraudulent testimonials alleged to have been written by grateful patients. They claim to be equipped with many wonderful instruments and appliances which are not known to the ordinary physician, and to possess a skill far beyond that of regular physicians in diagnosing and treating disease. For instance:

> We treat diseases of the Nerves, Blood, Skin, Heart, Liver, Stomach, Kidneys and Liver, including Rheumatism, Paralysis, Goitre, Constipation, Catarrh, Epilepsy, Indigestion, Dyspepsia, Weak Back, Bloating, Dropsy, Eczema, Scrofula, Diseases of Women and Diseases of Men.
>
> To prove to you that chronic diseases are our life study, and that we know the human body to the most minute detail, we will undertake to diagnose any case, in a few minutes, describing every ache and pain, without asking the patient a single question. To aid us in diagnosis we have instruments of our own, used by no other doctors.
>
> **UNITED DOCTORS**
> **CONSULTATION FREE**

WHAT THE UNITED DOCTORS REALLY ARE

"United Doctors" is a name for a business originated and owned practically by one man. It is not a professional organization but a business concern. The "great specialists" are professional renegades hired at a small salary, old and young, many of them with the most meager equipment, training and experience; others who have been failures in the regular practice or who, for various other reasons, have been induced to engage in this form of quackery.

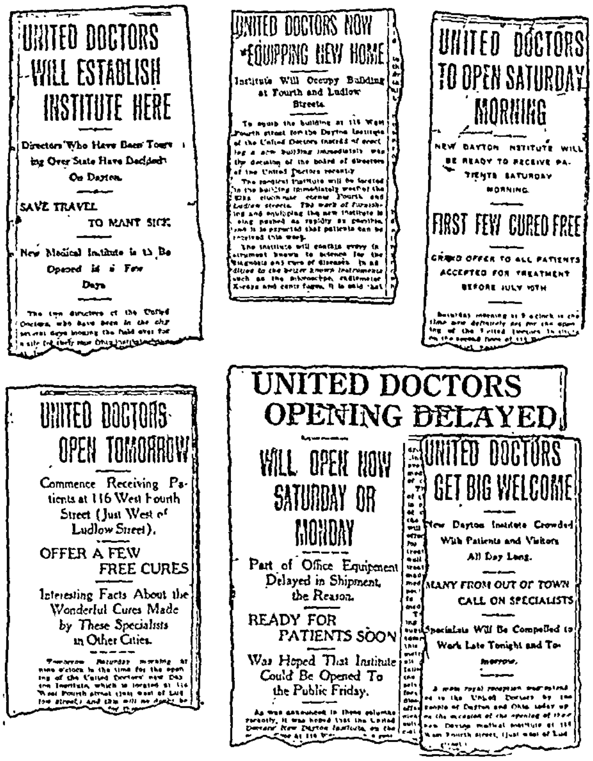
How such men are obtained, these two advertisements, which appeared on different dates in a Chicago paper, will show:

> DOCTOR—GOOD CASE TAKER, FOR ADvertising office, registered in Iowa; give full description, experience, and state salary in first letter. United Doctors, Waterloo, Iowa.
>
> PHYSICIAN — FOR ADVERTISING OFfice; state salary and experience; must have Indiana registration. Address S H 39, Tribune.

It will be seen that the principal qualifications required are that the man be a good "case-taker"—in other words, a good salesman of fake medical services—and that he be registered in the state in which he is to be employed. The latter qualification is necessary in order to conform to the letter—not the spirit—of the state medical practice laws. On general principles it should not be difficult to estimate the value of the services of doctors procured by the advertising method; but of this more later.

METHODS OF ADVERTISING AND RUNNING THE OFFICES

When it is proposed by the United Doctors to open an office or "institute" in a town, a preliminary advertising campaign is conducted in the local newspapers. Except names and dates the advertisements are precisely the same in every place. First it is announced that two or three of their "directors" have visited the city and have decided that it would be a suitable place to open one of their permanent "institutes." These men are not directors at all but only hired men—really, advance press-agents. They try to impress the public with the great favor they are doing the community in establishing therein one of their offices. At first they always profess that it is their intention to buy ground with the object of building later. In a subsequent advertisement they announce that they have decided not to build until fall or spring, as the case may be, but have leased such and such a location and the offices will be open about such a date. In their advertisements they announce one or more postponements of the time of opening the office, one of which will always be on account of the non-arrival of furniture and equipment. The same claims and promises appear in all places and with great regularity. Finally the "opening day" comes. Following this the advertisements—in every town—state that the office was crowded all day, that people were turned away, that many prominent business men called and wished them success, etc. They advertise "free consultation" and "free treatment" for a short time, requiring their patrons to pay only for their medicines which, it is needless to say, are always charged for at enormous prices and the patient is duly impressed with the expense and difficulty of obtaining the medicine. In subsequent advertisements they tell of the great amount of business they are doing, and publish testimonials of supposed patients—these, usually are from other towns, seldom from the town in which the office is located. Of the character and value of some of these testimonials we shall have something to say later.



UNITED DOCTORS WILL ESTABLISH INSTITUTE HERE

Directors Who Have Been Touring Over State Have Decided On Dayton.

SAVE TRAVEL TO MANY SICK

New Medical Institute is to Be Opened in a Few Days

UNITED DOCTORS NOW EQUIPPING NEW HOME

Institute Will Occupy Building at Fourth and Ludlow Streets.

UNITED DOCTORS TO OPEN SATURDAY MORNING

NEW DAYTON INSTITUTE WILL BE READY TO RECEIVE PATIENTS SATURDAY MORNING.

FIRST FEW CURED FREE

GRAND OFFER TO ALL PATIENTS ACCEPTED FOR TREATMENT BEFORE JULY 10TH

UNITED DOCTORS OPEN TOMORROW

Commence Receiving Patients at 116 West Fourth Street (Just West of Ludlow Street).

OFFER A FEW FREE CURES

Interesting Facts About the Wonderful Cures Made by These Specialists in Other Cities.

UNITED DOCTORS OPENING DELAYED

WILL OPEN NOW SATURDAY OR MONDAY

Part of Office Equipment Delayed in Shipment, the Reason.

READY FOR PATIENTS SOON

Was Hoped That Institute Could Be Opened To the Public Friday.

UNITED DOCTORS GET BIG WELCOME

New Dayton Institute Crowded With Patients and Visitors All Day Long.

MANY FROM OUT OF TOWN CALL ON SPECIALISTS

Specialists Will Be Compelled to Work Late Tonight and Tomorrow.

Fig. 1.—Series of advertisements in the form of reading notices inserted in the Dayton (Ohio) papers at the time of the opening of the "Institute" of the United Doctors in that city. Almost identical advertisements are used in every city where offices are opened, with the same delay and postponements on account of the non-arrival of furniture and equipment, and with the same "Big Welcome," etc. The same advertisements were used at Elmira, N. Y., where after a "Royal Reception" they closed the office inside of two weeks for lack of business.

To illustrate some of the points just mentioned the following extracts from their advertisements are given:

> "Yesterday it was announced in these columns that the United Doctors had at last consented to establish one of their world-famous Medical Institutes in Muncie, and that it would be ready to receive patients soon."
>
> "The board of directors have been looking about the city for some time for a suitable site upon which to erect a permanent home for the institution, but have at last postponed building until spring."
>
> "Several fine suites of rooms have been leased on the second floor of the Little Block occupying the second floor of the building; this will be occupied by the institute for the first year, or until a more suitable building can be purchased or erected for a permanent home for the institute."

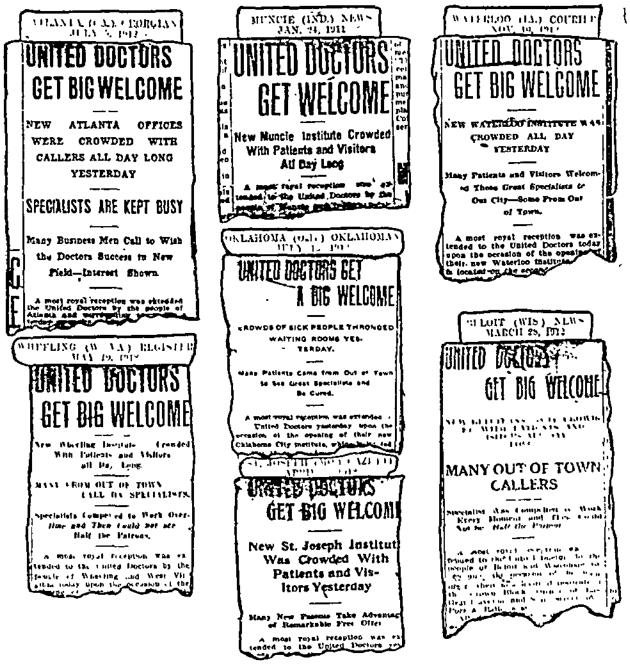
WIDE EXTENT OF THIS CONCERN

Such then, is the plan of the United Doctors. They now have established about fifty offices or "institutes" spread over thirteen states. During the last six months of 1912 at least ten new offices were opened in as many cities. They extend from Fort Dodge, Iowa, and Fort Worth, Tex., on the west and south, to Trenton, N. J. [illegible], Ga., on the east. They are all owned or contr[illegible] [illegible] tio[illegible] be noted later) by [illegible] over the offices, writes practically all the advertising matter, contracts for insertion in the newspapers, rents the offices, buys the supplies and; most important of all, pockets the lion's share of the proceeds.

This man is Ben W. Kinsey, whose former headquarters were in Chicago. His history shows the evolution of the typical quack and should convince any one that medical services rendered under the circumstances here set forth and by a concern employing the methods of Kinsey could be nothing less than a swindle.

PERSONNEL OF THE UNITED DOCTORS

Ben W. Kinsey was born and reared at Mackinaw, Tazewell County, Ill. He was graduated by the Jenner Medical College (then a low-grade night-school), Chicago, in 1904, engaged in private practice for about a year, and then became a pupil and assistant of "Phenomenal" Kraus, a notorious quack who on account of his methods got into trouble with the federal and state authorities in Missouri and Ohio for misusing the mails and irregularity in practice, and was described as a "most shameless medical advertiser."



ATLANTA (GA.) GEORGIAN

UNITED DOCTORS GET BIG WELCOME

NEW ATLANTA OFFICES WERE CROWDED WITH CALLERS ALL DAY LONG YESTERDAY

SPECIALISTS ARE KEPT BUSY

Many Business Men Call to Wish the Doctors Success in New Field—Interest Shown.

A most royal reception was extended the United Doctors by the people of Atlanta and

MUNCIE (IND.) NEWS JAN. 24, 1911

UNITED DOCTORS GET WELCOME

New Muncie Institute Crowded With Patients and Visitors All Day Long

A most royal reception was extended to the United Doctors by the people of Muncie

WATERLOO (IA.) COURIER

UNITED DOCTORS GET BIG WELCOME

NEW WATERLOO INSTITUTE WAS CROWDED ALL DAY YESTERDAY

Many Patients and Visitors Welcomed These Great Specialists to Our City—Some From Out of Town.

A most royal reception was extended to the United Doctors today upon the occasion of the opening of their new Waterloo institute, located on the second

OKLAHOMA (OKLA.) OKLAHOMAN

UNITED DOCTORS GET A BIG WELCOME

CROWDS OF SICK PEOPLE THRONGED WAITING ROOMS YESTERDAY.

Many Patients Came from Out of Town to See Great Specialists and Be Cured.

A most royal reception was extended United Doctors yesterday upon the occasion of the opening of their new Oklahoma City institute,

WHEELING (W. VA.) REGISTER

UNITED DOCTORS GET BIG WELCOME

New Wheeling Institute Crowded With Patients and Visitors all Day Long.

MANY FROM OUT OF TOWN CALL ON SPECIALISTS.

Specialists Compelled to Work Overtime and Then Could not see Half the Patrons.

A most royal reception was extended to the United Doctors by the people of Wheeling and West Virginia today upon the occasion of the

ST. JOSEPH GAZETTE

UNITED DOCTORS GET BIG WELCOM

New St. Joseph Institut Was Crowded With Patients and Visitors Yesterday

Many New Patients Take Advantag of Remarkable Free Offer

A most royal reception was extended to the United Doctors

BELOIT (WIS.) NEWS MARCH 25, 1912

UNITED DOCTORS GET BIG WELCOME

MANY OUT OF TOWN CALLERS

Fig. 2.—Collection of advertisements of the United Doctors showing their identical character in widely-separated states and cities.

HOT SPRINGS DOCTORS

Kinsey spent a few months with "Phenomenal" Kraus learning the ins and outs of the quack specialty business and then, being an apt pupil, branched out for himself, about 1906, under the name of the "Hot Springs Doctors." He pursued much the same methods at that time as at present and established so-called institutes during 1906 and the next two or three years in Ottumwa, Iowa, Lincoln, Neb., Topeka, Kan., and other places. As at present, he claimed then that he intended to purchase property and build permanent institutes; but so far as known he never did so.

The idea exploited at that time was "a wonderful Hot Springs system of home treatment." Kinsey claimed in his advertisements that he was a specialist whose scientific research and ingenuity had enabled him to discover the secret of the Hot Springs waters and made it possible to give in any home the same results which formerly could be obtained only by a visit to Hot Springs, Ark. As is well-known, the Hot Springs of Arkansas are under the supervision of the United States government and physicians who practice there must have a license endorsed by the government authorities. With the shrewdness of the true quack, Kinsey ingeniously claimed that his system of treatment was highly endorsed by the United States government and that the Hot Springs Doctors held a government license to treat all chronic diseases, etc. He described himself as being "better known among his associates in the medical profession as the man with the *x*-ray eye on account of his marvelous skill in locating and curing diseases." It will be seen that within a year or so after Kinsey graduated from a third-rate night medical school in Chicago he bloomed out as a wonderful specialist with the "*x*-ray eye," claiming marvelous power in the cure of all sorts of chronic diseases. About 1909, probably on account of the grossly false claims made for his system of Hot Springs treatment and the government endorsement thereof, he found it expedient to change the name and methods under and by which he operated and began establishing offices under the name of the United Doctors.

LEGAL SNAGS

The practice of the United Doctors has not been all clear sailing, and Kinsey and his hired men have been legally called to account in numerous instances. Together with one of his hired specialists, Dr. Fletcher T. Riley, Kinsey was indicted in Milwaukee, Wis., in 1910, for violation of one of the statutes of Wisconsin regarding the publication of obscene matter in medical advertisements and for practicing without a license. Kinsey was convicted on the first charge and plead guilty on the other and was fined. Other indictments for similar violation of the statutes still hang over his head in Wisconsin. At the trial in Milwaukee, Kinsey on the witness stand stated that he used the term "United Doctors" simply as a name under which he conducted his business; that he wrote the advertisements and attended not only to their insertion in the newspapers but also to all business matters connected with the offices of the United Doctors. Kinsey has grown rich from the business and is said to own 400 acres of good corn land in the Illinois River bottoms in Tazewell County, Ill., and 1,500 acres in Canada. The income from the fifty or more offices is said to be large.

While Ben W. Kinsey has been apparently the sole owner of the United Doctors, his brother, Lee B. Kinsey, seems to have acquired an interest in the business. L. B. Kinsey lives at South Bend, Ind., and helps supervise the offices in Indiana and neighboring states. He formerly practiced as a civil engineer, but no doubt found from the experience of his brother that the advertising quack specialty business was a much more lucrative one.

SOME COUNTERFEIT "SPECIALISTS"

The character of the men employed by Kinsey as "specialists" in the offices of the United Doctors may be known by a brief history of a few of them.

Dr. Samuel C. Beach.—Beach graduated at Rush Medical College in 1892. In 1897 he practiced for a short time at McCook, Neb., a town of about 4,000 inhabitants, and according to our informant, after trying various other locations, he returned to McCook in 1902 where he remained up to about 1909 or 1910 when he opened an automobile repair shop. After a few months he again hung out his shingle as a physician, only to withdraw it in a short time. In 1910 he was connected with a traveling medicine show, it is said. He then became an assistant to a reputable physician in Omaha. He did not stay there very long—naturally, enough—but soon was reported to be engaged in "theatrical work" at Plattsmouth, Neb. After a short time he returned to Omaha for a brief period, and then became an employee of the United Doctors and went to the Port Huron office, where a prosperous business was done until the local clientele was milked dry and the office closed, when he was sent to the Bay City office. It is said that he is eccentric and unreliable, and that when he left McCook a number of creditors mourned his departure.

Dr. Fletcher T. Riley.—In 1910 this man was arrested with Ben W. Kinsey in Milwaukee for a violation of the Wisconsin statutes in regard to obscene advertising. He was graduated by the Ohio Medical College in 1877 and practiced for a time in Wisconsin. In 1909 he was connected with the United Doctors' office in Danville, Ill., and in 1910 with the Milwaukee office. Later he severed his connection with the United Doctors and is now running an advertising specialist concern under his own name in Milwaukee.

Dr. Lee M. Barney.—This man was graduated by Northwestern University in 1889 and seems to be troubled with *Wanderlust*. He was licensed in Illinois in 1907, in Indiana in 1908, in Florida in 1910, and in Wisconsin in 1912. In 1909 he was employed as one of the "Hot Springs Doctors" and his license was revoked at Fort Wayne, Ind., on account of improper methods. He applied to the courts and, owing to the weakness of the Indiana medical practice act, was reinstated in 1910. In May, 1912, it is reported that he turned up at Wilton, Wis., with a bunch of fakers comprising Dr. Barney, an "optician" and a dentist, with a crude vaudeville show accompaniment. Barney left the company at Wilton and returned to Elkhart, Ind., and later went to Pensacola, Fla., where he is running an advertising office under the name of the "German-American Doctors."

Dr. Warren D. Scott.—Scott is a homeopath who graduated at Hahnemann Medical College, Chicago, in 1882, and has been associated with Ben W. Kinsey since the days when he was running the offices under the name "Hot Springs Doctors." He is sometimes referred to as one of the "directors" of the United Doctors. Dr. Scott, like most of the other men employed by Kinsey, is moved around from one office to another as the occasion demands or prudence dictates. In 1907, while he was working at Terre Haute, Ind., for Kinsey as one of the Hot Springs Doctors an attempt was made to revoke his license on account of irregular practice. Scott, however, was not a resident of the state and did not remain in Terre Haute. The case against him was dropped.

Dr. Pierre Lafayette Stewart.—This man was graduated at the American College of Medicine and Surgery, Chicago, in 1905. After practicing at the village of Shelburne, Ind., for a time he was employed by the United Doctors at different times in the offices at Bloomington and Decatur, Ill., Omaha, Neb., and Logansport, Muncie and South Bend, Ind. In 1911, while he was practicing at Muncie and South Bend, Ind., charges were filed against him before the Indiana State Board of Medical Registration and Examination on account of fraudulent advertising and misrepresentation in connection with the Muncie office of the United Doctors and also because of his alleged excessive use of intoxicants. One specification in the charges referred to the fraudulent nature of a testimonial prepared by Stewart to which he secured the signature of one of his victims. This testimonial will be referred to later. Stewart's advertisements claimed that he used many complex and wonderful instruments for diagnostic and other purposes. When asked by the state board to tell with what instruments the Muncie office was equipped, Stewart could name only a few of the instruments known to and used by nearly every practicing physician. He admitted that he had no *x*-ray apparatus, no centrifuge and no cystoscope, and he further admitted that he had no instruments whose use was unknown to other doctors. Of course, he claimed that he had nothing to do with the advertisements inserted in the newspapers and that he had no hand in writing them, his only duty being to examine and treat patients—and collect the fee! The case before the state board for revocation of Stewart's license has never been decided. He severed his connection with the United Doctors, however, and later opened an advertising business of his own at Richmond, Ind., under the name of the Stewart Medical Company. According to the Richmond *Item* he suddenly left there about the middle of April, 1912, leaving several accounts owing to Richmond tradesmen for office furnishings, etc. The Bloomington (Ill.) *Bulletin*, April 15, 1912, states that Stewart, while in the employ of the United Doctors in that town, spent considerable time in neighboring barrooms and adds that a number of creditors in that city are anxious to find him.

Dr. L. F. Elston, alias L. F. Elstein, alias L. Fink Elstein, alias Leopold Finkelstein.—This multinamed individual at the time of its opening and for some time thereafter, conducted the office at Wheeling, W. Va. Formerly he supplied the Wisconsin offices in Eau Claire, Milwaukee, Racine, Janesville and Beloit, and is referred to in some of the advertisements as a "director" of the United Doctors. He received a diploma under the name of Leopold Finkelstein from the College of Physicians and Surgeons in Baltimore in 1885. The modesty of the real quack is shown in the statement made by him concerning his qualifications in the Wheeling *Intelligencer*, May 16, 1912:

> "One of the originators and the head of the United Doctors is L. F. Elston, A.B., M.D., a physician of vast learning, having devoted many years in obtaining his education to study [sic]. Dr. Elston has studied in France, Greece, Italy, England, Switzerland, Austria, Turkey and Russia. He has taken a scholarship at both Oxford and Yale. He has taken post-graduate work at the College of Physicans and Surgeons at Baltimore, Md., and was assistant to the great nerve specialist, Prof. Arnold, of the University of Pennsylvania. Dr. Elston was personally appointed a state health officer for the state of New Jersey by ex-Governor Abbott. A remarkable record is finished by the fact that he speaks, reads and writes nine languages."

The writings of Elston do not indicate that he profited much by the "extensive studies" in the various foreign countries mentioned by him. It is one of the customs of many men coming from abroad to claim graduation from foreign institutions which, when investigated, have no existence. Inquiry of the dean of the medical department of the University of Pennsylvania reveals the fact that no great nerve specialist by the name of Professor Arnold was ever connected with that university, and they know nothing of Dr. Elston, Elstein or Finkelstein. His claim to having been appointed a state health officer of the state of New Jersey is apparently based on the fact that Elston was appointed for a temporary service in 1893 for the purpose of making a report relative to the Russian-Jewish colonies in Southern New Jersey.

These men are typical of the men employed by the United Doctors and heralded by them in their extravagant advertisements as great specialists with marvelous powers of diagnosing and curing disease. They probably are as good as could be secured by advertisements in the daily newspapers, and are men of the stripe needed to carry on such a swindle as that perpetrated by the United Doctors.

BUSINESS MEN'S ASSOCIATION ACTS

When the institute of the United Doctors was about to be opened in Wheeling, W. Va., the Retail Business Men's Association of that city, prompted by some inquiries concerning their advertising methods, undertook to look into the standing of the United Doctors. Accordingly a letter signed by the Business Men's Association was addressed to the United Doctors asking the manager (Elston) to meet the Association and present credentials so that the Association might place them before the public correctly. The United Doctors or its representatives, of course, failed to appear and the Business Men's Association, in a statement in the Wheeling *Register* of May 15, 1912, made the following comments:

> "The public will have to put its own construction on the failure of the United Doctors to appear and give proper information concerning themselves to the recognized organization of the legitimate business concerns who deal directly with the people. A fair inference would seem to be that the men who are advertising here under the name of the United Doctors are part of the same crowd who are using this name in the central west to hide the true character of the individuals in actual charge of the offices, and are unwilling to be questioned too closely concerning their antecedents."

As a "come-back," Elston, for the United Doctors, in one of his advertisements in the Wheeling *Intelligencer*, May 16, 1912, attempts to answer these criticisms. Notwithstanding his claim to be master of nine languages his English does not show up very well in this quotation:

> "An article appeared in these columns recently, stating that a local business organization were to investigate the methods of the United Doctors. Owing to the unfairness of this organization in inserting this article in such a manner as to lead the public to believe that they had some moral or legal right to set themselves a judge and jury for the community and then placing still another article in the papers with further insinuation through no apparent reason for this badgering. There [illegible] reason, of course—a very live and real reason, if [illegible] the [illegible]. Should one look hard [illegible] the strings."

A further attempt to offset the damaging criticisms made by the Business Men's Association appeared in an advertisement in the Wheeling *News*, May 19, 1912. Elston says:

> "A telegram was received yesterday saying that the Beloit Commercial Association of Wisconsin would be pleased to answer all inquiries regarding the professional standing of the United Doctors. They state that the United Doctors' standing is in every way of the very best."

This statement was brought to the attention of the Commercial Club of Beloit which replied that there was no truth in it and that the president of the Commercial Club, who at the time was in California, would, if he were in Beloit, probably push the matter against the United Doctors for making such a statement. Neither the secretary of the club nor the members knew of any such action or endorsement.

FRAUDULENT TESTIMONIALS

The testimonial[2] is a time-honored institution and is the thing chiefly relied on by both the "patent-medicine" fakers and the quack in selling medicines or in procuring victims. It is freely employed by the United Doctors and a few examples to illustrate the shameless manner in which the public is deceived will not be amiss.

RHEUMATISM—A CURE THAT DIDN'T CURE

One of the charges made against Dr. Pierre Lafayette Stewart before the Indiana State Board was that he had prepared and inserted in the Muncie *Morning Star*, March 18, 1911, the following testimonial:

> "Muncie, Ind., Feb. 5, 1911.
>
> "*To the Public:*—I want to make a statement to the public concerning my wife. As I am a resident of Muncie, I am not ashamed for anyone to know where she got her first and only relief. For thirteen years my wife has been suffering with inflammatory rheumatism and has been confined to her bed all this time. I tried doctor after doctor with no results and last Sunday I persuaded the specialist of the United Doctors to come and see her. He at once diagnosed her case and told me she could be relieved. I could scarcely believe this as I had experimented so much with other doctors, but I told him to put her under treatment.
>
> "It has now been just one week since she began taking the doctor's treatment and she has been out of bed three days this week and I owe everything in praise of these specialists. If anyone does not believe this they can call at my house and I will gladly answer any questions. F. O. Trout."

The real status of this testimonial is made plain by the following affidavit made by F. O. Trout and filed with the State Board:

> "State of Indiana, }
> County of Delaware } ss.
>
> "I, F. O. Trout, of my own free will and under oath, hereby state that I have read an advertisement of the United Doctors, who are practicing medicine in Muncie, Indiana, said advertisement appeared in the Muncie *Morning Star*, March 18, 1911, and contained a letter to the public over my signature. This letter contained statements that are untrue and which I did not authorize. At no time while doctoring with the United Doctors could my wife get out of bed without assistance.
>
> "I wish to further state that Dr. Pierre Lafayette Stewart is the man who attended my wife as above stated, and who represented the United Doctors. The aforesaid Dr. Pierre Lafayette Stewart made the statement at the beginning of his treatment of my wife that he would have her walking in six weeks, and on this representation and agreement I paid him $19.50, which he obtained under false pretenses, as at no time since the beginning of his treatment has my wife been able to walk without assistance. At this date, May 6, 1911, she is still an invalid and is confined to her chair.
>
> "I make the foregoing statements voluntarily that the public may know the truth about this case.
>
> "(Signed) F. O. Trout.
>
> "Subscribed and sworn to before me this 6th day of May, 1911.
>
> "(Signed) Omar G. Weir,
> "Notary Public.
>
> "My com. expires May 28, 1911."

MAKING CAPITAL OF A SIMPLE CONDITION

As an instance of the way in which the United Doctors and other quacks make capital out of some simple condition the following testimonial of Mrs. William E. Moon of Greentown, Ind., is interesting:

> "Greentown, Ind., April 29, 1912.
>
> "*Gentlemen:*—In the night of July 8, 1906, our little boy, who was three years old, began to choke and gasp for breath. He was so bad that we did not think he would live until we could get the doctor, and from that time on up to one year ago, before we visited the United Doctors, which was in October, 1911, he had the same spells every six or eight weeks, which would last from eight to ten days. For one year before we visited the United Doctors the bad, loud, hard breathing bothered him all the time. He coughed and breathed so hard and loud that together with the constant care he required the rest of the family were worn out. The condition could not be exaggerated. He vomited great quantities of phlegm and about all his nourishment. He became pale and bloodless, and was not able to play or go to school on account of the distressing symptoms. We tried doctor after doctor, and bottles and bottles of patent medicines, and almost smoked his eyes out, all to no avail, for he grew worse all the time. Two of the best specialists in Evansville utterly failed to benefit him.
>
> "On October 4, 1911, we began the United Treatment of the United Doctors. Wonderful to say, for it sounds like magic, the first night he slept like a new born babe, something he had not done for a year before. He has had no trouble since. He goes to school every day, and can run and play with any boy. He has picked up in flesh until the neighbors hardly know him.
>
> "Mrs. Wm. E. Moon."

On inquiry into this wonderful case it was found by our informant that this child was subject to ordinary spasmodic croup occasionally, which was relieved by the family physician by the usual simple methods. In the hands of the United Doctors, however, the case becomes a horrible example of the failure of the ordinary doctor to recognize the true condition. This all helps to impress the gullible as to the great powers of the United Doctors.

A RELATIVE BOOSTS THE GAME

John D. Clark says that he is a real-estate dealer and resides at Mackinaw, Ill. The South Bend (Ind.) *News*, Jan. 7, 1912, contains a long testimonial from John D. Clark in which he praises the United Doctors highly for curing him of constipation of sixteen years' standing which, he says had made him a nervous wreck and at times rendered him utterly unfit for business. He also boosts their game by including in his testimonial a statement that when he saw what this wonderful new treatment was doing for him, he advised a friend who had gall-stones to go to the United Doctors for treatment. After going the rounds of all the other doctors without relief, some of whom advised operation, John D. persuaded his friend to go to the United Doctors. He fails to state whether or not the United Doctors cured the gall-stone patient, but leaves it to be inferred that they did.

On inquiry it was found that John D. Clark is connected by marriage with Lee B. Kinsey, who manages the South Bend and other offices, and that during the previous two years, at least, Mr. Clark had apparently been a perfectly healthy man and had never been laid up a day during that time. Possibly the testimonial supply was getting a little stale and so Cousin-in-law John D. was called on for a little boost.

INFRINGEMENTS ON THE UNITED DOCTORS' GRAFT RESENTED

As might readily be supposed the success of the graft worked by the United Doctors has not been overlooked by other fakers, and the name "United Doctors" with slight modifications has been appropriated by them, so that we have the "United Doctors, Specialists," "Original United Doctors," "United Doctors, Incorporated" and "Northwestern United Doctors." This infringement on their particular form of swindle is resented by the United Doctors, and in their advertisements they complain of the "small-fry imitators" who claim to have "something just as good" or "the same thing under a different name." They say: "The phenomenal success of the United Doctors in curing old chronic and deep-seated diseases by their wonderful new system of treatment has brought forth a lot of swindlers pretending to have the same treatment." This is an instance of the pot calling the kettle black. They even offer in one of their advertisements $100 reward for any person in Nebraska, Iowa, Missouri or Kansas who convicts any doctors or persons of fraudulently obtaining money by pretending to be the agents of the United Doctors. This offer of reward is set forth as a "WARNING TO SICK PEOPLE." As a piece of skilful advertising this probably brings returns. Among other quacks who

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[2] Only a few testimonials are given here on account of lack of space. Others will be found in the pamphlet in which the story appears in full.

Correspondence

What a Local Society Can Do

To the Editor:—One of our local papers recently carried a large advertisement of "English Hemorrhoidal Remedy," containing what purported to be a signed statement from forty local druggists, stating that they were much impressed with the value of this remedy, and unreservedly endorsed it. Our local medical society sent each one of these druggists a letter, asking them to let us know on what they had based this strong endorsement. They scrambled all over each other to send replies disclaiming any such endorsement, and sent back to the exploiters their stocks of the nostrum, which they had held on consignment. One establishment replied naively that it never had approved of this method of advertising, and, *as the goods had not sold well*, it had sent them back.

Our action will materially decrease that kind of advertising in the future, and was well worth the trouble it cost. It is reported as a tip to other local medical societies.

In return, perhaps you or some one else can tell us if there is real hope for a community in which the leading paper, one of the most conservative and influential in New England, and controlled by the president of the local antituberculosis society, who is also a member of the State Tuberculosis Commission, still publishes advertisements of Eckman's Alterative for Tuberculosis, and enlivens its columns with the answers of the sprightly Mae Martyn to her anxious inquirers, incidentally mentioning the virtues of those simple and inexpensive household remedies, Spurmax, Gogag, Puquik, Pemore and Ogosh.

Augustin A. Crane, M.D., Waterbury, Conn.

Comment.—The local society at Waterbury is to be commended. Yes, we believe "there is real hope for a community" that has the kind of local medical society that exists here. We would suggest that the editor, owner, publisher and advertising manager each be sent one of our pamphlets showing the fraudulence and worthlessness of "Eckman's Alterative" and that our exposé of the Mae Martyn "prescription fake" humbug, also be called to their attention.

Another Misstatement Concerning Phylacogen

To the Editor:—In the Special Phylacogen Number of *Therapeutic Notes*, published by Parke, Davis and Company, Phylacogens (Schafer's Modified Bacterial Derivatives) are said to have been discussed at the meeting of the Westmoreland County Medical Society, held at Greensburg, Pa., June 17, 1912.

This statement of Parke, Davis and Company is not true. We held no meeting on that date, and this product has never been discussed by our society

M. W. Horner, M.D., Mount Pleasant, Pa.
Secretary, the Westmoreland County Medical Society.

The Inadequacy of Bishop's Antitoxin Hypothesis to Explain Fully the Symptomatology in Morphin Addiction

To the Editor:—Dr. Bishop in his article on narcotic addiction in The Journal (Feb. 8, 1913, p 431), does not, it seems to me, lay sufficient emphasis on the part played by the nervous system in the symptomatology of drug addiction. Whether or not we accept his hypothesis of antitoxin development in morphin users, it comes up to us in the end to deal with the addiction as manifesting itself in a disordered mental and nervous system. Therapeutically, we use narcotic drugs in order to produce some definite effect on or through the nervous system. In addiction the patient attempts to continue indefinitely a reaction which takes place physiologically in therapeusis.

Thus the nervous system deprived of opportunity for normal functioning through the inhibiting influence of a drug necessarily becomes pathologic in its reactions. In the case of morphinism physiologic tolerance is quickly exceeded; toxic effects are noticed practically from the beginning. It is well known that any toxin introduced from without, or elaborated within the body, acts injuriously on the cortical and ganglionic cells and nerve fibers. Therefore, whether we consider the symptoms as due directly to the toxic effects of morphin, or to effects of an antitoxin induced by morphin, we face a disease syndrome which must be regarded and treated in the light of nervous and psychic deterioration. In thus regarding morphinism as a nervous and psychic disease picture, I do not for a moment lose sight of local organic disturbances, or belittle the therapeutic measures taken by Dr. Bishop and others for their correction. It is certainly essential that therapeusis shall be instituted for the direct correction of such disturbances. Yet the fact remains that back of all such disorders, whether secretory, trophic or cardiovascular, there exists a deranged nervous system, the great etiologic factor in their causation.

The sensations streaming into consciousness from the various organs of the body normally function without the individual being aware of the process. It is when this metabolic equilibrium is upset or disturbed that the individual becomes cognizant, through discomfort or pain, of his normally unconsciously performed bodily processes. By locking up the secretions and otherwise interfering with the normal metabolic action of the organs, including the nervous system and brain, morphin induces a disturbed or painful cenesthesia—a sense of general bodily discomfort—which may become unbearable. In order to maintain a sense of well-being against the cumulative toxic effects occasioning this bodily and mental discomfort, the dosage must be gradually increased. The time comes in the majority of cases when no dosage is sufficient to produce the desired effects. All the while the patient is losing resistance; he is becoming habituated to the shutting out of all painful sensations or impressions whether in the physical or psyscic realm. Thus is brought about that character deterioration which is always seen in the drug addict and which varies according to the individual's original fiber. The higher mental qualities constituting character regain their former vigor only after a lengthy absence from the drug, and when complete organic rehabilitation has taken place. This delayed character (will-power, proper ethical valuations, etc.) reestablishment is to my mind the main factor in the causation of relapses.

In dealing with the mechanism of relapse, the important bearing of the vicious mental processes which have been established during addiction must be taken into account. The patient is, as it were, under the yoke of his associative memory processes. His habitual reaction to pain or fatigue or mental stress has been resort to his drug. He has, in reality, established a sort of pain—morphin reaction, paralyzing, thereby, his natural resistive resources. From this associative process it is extremely difficult for the patient to release himself. Long after bodily health has apparently been reestablished, when physical stress (digestive, cardiovascular, conditions of fatigue, etc.) or mental strain arises, he is likely to react automatically, instinctively, as it were, with no volition whatever in the matter, in resort to his drug.

C. C. Wholey, M.D., Pittsburgh, Pa.

Restatement of the Position of Meigs on the Behavior of Muscle

To the Editor:—In my recent article on the colloid-chemical theory of water absorption in The Journal, Feb. 1, 1913, p 348, I say that "Meigs has himself now given up his original osmotic notions regarding the behavior of muscle." This is only half true, for in a letter just received Dr. Meigs informs me that he does still believe that "striated muscle fibers are surrounded by semipermeable membranes," and that "smooth and striated muscle differs in this very point," the smooth muscle acting purely colloidally.

This correction is made in order to express the views of Meigs more accurately. It does not of course alter my own opinion in the matter, which, while it loses in part the support of Meigs, runs parallel to that of F. Hofmeister, N. R. Proctor, von Fürth and Lenk and Wolfgang Pauli.

MARTIN H. FISCHER, M.D., Cincinnati.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DERIVATION OF FAT IN THE STOOLS FROM THE FOOD INTAKE

To the Editor:—In the *British Medical Journal* (Nov. 9, 1912, p. 1281), Williams reports the finding of saturated fat and fatty acid in intestinal concretions, intestinal sand and appendix concretions, and refers to the case of Mr. Paul in which brownish-red granules containing fat in large quantities were found in the billiary passages. He implies that the intestine excretes fat from the blood. Is there any scientific foundation for this opinion? S. L. B.

ANSWER.—The occurrence of true intestinal concretions consisting largely of fat or fatty material is so unusual or problematic that the current text-books have little or nothing to say on this subject. Many years ago Robiquet and Lassaigne reported analyses of concretions which indicated 60 and 74 per cent. of "fat," respectively (see Gorup-Besanez, E. F., Lehrbuch der physiologischen Chemie, 1867, p. 505). These data were obtained at a time when the expression "fat" represented the crude ether extract which might well have included numerous contaminating substances other than fat itself. The steatorrhea mentioned in our editorial column ("A New Inborn Error of Nutrition," THE JOURNAL, March 1, 1913, p. 668) and the lumps of soap sometimes passed after the ingestion of olive oil are not due to a true excretion of fat through the intestinal wall from the blood or tissue itself. We are not aware that any justification whatever exists for the type of excretion to which our correspondent refers, although Williams has lately described concretions rich in calcium soaps and found in the appendix and elsewhere which he suggests are due to the abnormal excretion of these soaps or allied compounds by the mucous membrane. His evidence for the origin of such concretions in the intestinal mucosa is, however, most indirect and far from convincing. From the investigations of Mendel and others it is known that calcium is excreted by the bowel; and this fact is sufficient to account for the precipitation (as calcium soaps) of any fatty acids with which the alkali earth may come in contact in the lumen of the intestine. The production of fatty masses in the degenerative changes in cells lining the intestine can scarcely be referred to as a secretion of fat into the bowel. Fat and its derivatives in the stools are derived, in ultimate analysis, from the food intake. Fat-like substances soluble in ether and represented by cholesterol, etc., may, however, be derived from the alimentary secretions and find their way into concretions.

EFFECT OF PASTEURIZATION ON BACTERIA IN MILK

To the Editor:—I enclose a copy of a recent report of the Milk Commission of the Chicago Medical Society in which occurs the statement that "the commercial pasteurization, while sufficient to destroy ordinary milk bacteria, does not kill the tubercle bacillus." Please inform one desirous of knowing the facts whether this statement is true. D. L. K.

ANSWER.—If the expression "commercial pasteurization" in the report referred to is intended to mean a method of heating which does not kill the tubercle bacillus—which is not real pasteurization at all—it simply prejudges the whole question and there is nothing more to be said. If, on the other hand, it has the meaning plainly attaching to the words and relates to pasteurization on a large scale under commercial conditions, the statement is not correct. Experiments have shown that the tubercle bacillus is killed by exposure at 71 C. (160 F.) for one minute; or if the holding type of pasteurizer be used, a temperature of 63 C. (145 F.) for from thirty to forty-five minutes will suffice. Well-known types of pasteurizing machines which will fulfil one or the other of these conditions are in practical daily use in large cities in this country. The report referred to is erroneous in another particular—namely, in its statement about the destruction of "ordinary milk bacteria." The well-known work of Ayers and Johnson showed that commercially pasteurized milk always sours through the development of lactic acid bacilli, which survive the heating process. Some of these lactic acid bacteria, which we suppose to be meant by "ordinary milk bacteria," have a higher thermal death-point than the tubercle bacillus.

CORRECT MEDICATION

To the Editor:—After reading the article "Bad Medication" (THE JOURNAL, Jan. 25, 1913, p. 280), I would like to know where I can obtain a book which will give me, along with other things, the action and dosage of drugs, how often to repeat the dose and the length of time after administration it requires for each drug to begin to act. S. E. JONES, M.D., Lucerne, Ind.

ANSWER.—Unfortunately, there seems to be no book which will give these data for every drug. It depends on the object to be gained and the nature of the disease for which we are prescribing. Obviously, if we were giving strychnin as an ordinary tonic, we would give it not more than three times daily. If we wish to get its effect on the respiration, we might find it necessary to use doses once in three or four hours. The U. S. Pharmacopeia, the "Physicians' Manual of the U. S. Pharmacopeia," the National Formulary, the "Handbook of Therapy" and Osborne's "Materia Medica and Pharmacology," 1906, will give a great deal of information and many valuable hints on these matters. Of course, a modern work on pharmacology should be consulted, which will describe the action of drugs and their therapeutic uses.

TEST FOR UROCHROMOGEN IN URINE

To the Editor:—Please inform me how the test for urochromogen in urine is made. According to the abstract of the article by Weisz, THE JOURNAL, Feb. 8, 1913, p. 485, "the urochromogen test is applied to urine diluted to one-third and separated into two equal portions. To each half is added three drops of a 1 per thousand solution of permanganate, and the tint is compared with the untreated half. A pure distinct yellow is the positive reaction." I want to make this test, but cannot do so according to these directions. SAMUEL P HAND, M.D., Demopolis, Ala.

ANSWER.—Instead of "to each half," the directions should read "To one-half are added three drops," etc. The directions in full are: "Fill a test-tube to one-third with the clear fresh urine; then dilute it three times (*hierauf wird dreimal verdünnt*) and separate into halves. Add to one half three drops of 1:1,000 solution of potassium permanganate; mix thoroughly and compare with the other half."

A REQUEST FOR HISTORY AND CASE-RECORD BLANKS OR CARDS

To the Editor:—I am endeavoring to get a history and case-record card. Please give me your idea of a good card of this kind. My idea is to have history, clinical record, diagnosis, treatment and all analyses on same card. F. G.

ANSWER.—Other correspondents occasionally ask similar questions. It will be appreciated if our readers will send us two specimens each of any cards and blanks of this sort which they are using. We also would be glad to know the source of the card, that is, whether a stock card from some firm, or a specially printed card by some local printer. It may be that from all these various cards we can arrange a card with the good features of all, which can be recommended to physicians interested.

SIGNIFICANCE OF THE STROKE ACROSS THE R AT THE HEAD OF A PRESCRIPTION

To the Editor:—Will you kindly tell a reader of THE JOURNAL the significance of the line across the tail of the ℞ on our prescription blanks? I think that the R means recipe, but what means the line? C. E. RISTINE, M.D., Knoxville, Tenn.

ANSWER.—Bernard Fantus in his "Prescription Writing and Pharmacy" says that the upward stroke at the end of the ℞ standing for recipe is believed to have originated in the astronomic sign of the planet Jupiter, which was formerly put at the head of prescriptions to symbolize a prayer to the deity for divine blessing on the remedy ordered.

TECHNIC OF MANUFACTURE OF ACETYLSALICYLIC ACID

To the Editor:—Please give the technic of the manufacture of acetylsalicylic acid, or refer me to some book which will deal with this subject completely. FRANK H. BENT, M.D., Wallace, Neb.

ANSWER.—The process for the manuf [illegible] alicylic acid (aspirin) is described on page [illegible] Remedies, 1913.

Society Proceedings

COMING MEETINGS

Medical Society of the Missouri Valley, Kansas City, March 20-21.
Mississippi State Medical Association, Vicksburg, April 8-10.
Tennessee State Medical Association, Nashville, April 8-10.

CONFERENCE OF THE AMERICAN MEDICAL ASSOCIATION ON MEDICAL EDUCATION AND MEDICAL LEGISLATION

Held in Chicago, Feb. 24-25, 1913

The Ninth Annual Conference of the Council on Medical Education of the American Medical Association was held at the Congress Hotel, Chicago, Monday, February 24, followed on Tuesday by the Conference on Medical Legislation.

The Monday session was presided over by DR. ARTHUR DEAN BEVAN of Chicago, whose opening address (in abstract) was as follows:

Third Classification of Medical Colleges

The classification of medical colleges of the United States is the most complete classification that has so far been made. It is the result practically of eight years of work. In this classification the schools have been divided into Class A plus, Class A, Class B and Class C. The Class A plus schools are the well-organized medical schools giving acceptable courses. In addition, they have already placed themselves on higher preliminary requirements, requiring one year or more of university science. In that group there are twenty-four schools. The Class A group are also acceptable schools. The Council would like to submit to each school that desires it a specific statement of the reasons for its classification. The Class B group are schools which require a considerable general improvement in order to be made acceptable. The Class C schools are schools which the Council regards in a group which would require complete reorganization to make them acceptable.

There are altogether now a little over 100 medical schools in the United States. When this Conference began its work there were 166. A number of the schools on this list have by merger or otherwise ceased to exist within the last year or will discontinue before the opening of the next session, making in all about 100 schools. Twenty-eight of the state boards are now refusing recognition to between twenty-five and thirty of these 100 schools. It is fair to suppose that somewhere in the neighborhood of seventy of these schools will continue to exist and will develop and grow stronger year after year, and that the majority of the twenty or thirty schools on the list will by merger or otherwise discontinue.

Since 1905 such great improvements have been made by the medical colleges of the United States that about sixty of the schools that will probably continue to teach medicine and develop and grow strong have agreed to adopt a year of physics, chemistry and biology. We have evidence to show that a large number of the better schools have recognized the importance of the intern year in a hospital, and some recent statistics which we have collected show this rather interesting fact. We have written to these different schools, asking them to give us the number of graduates in the last class who obtained hospital positions. The reports are not all in, but the situation is most encouraging. Out of a total of 956 in last year's graduating class in the seventy better schools, about 70 per cent. have received hospital internships. We are in much the same position as the United States was a number of years ago when there was a discussion on the resumption of specie payment; so much has been accomplished that practically the only thing necessary is for the 75 per cent. of the better schools to resume, to place themselves on the plane of the premedical year of science and of the hospital internship. With the assistance of the Association of American Medical Colleges and the Federation of State Boards, it now seems necessary to do but one thing, and that is to cooperate in this movement with the Council, so that within a short time we may accomplish what we set out to in 1905.

In regard to the schools of the South, Dr. Colwell, Dr. Witherspoon and I visited Augusta, Ga., during this winter. The community there realized the importance of the development of a strong medical school. The medical school succeeded in convincing the people of Augusta and of the state of the importance of supporting a high-grade medical school. They succeeded in having the city turn the hospital over to the medical school, so that now a city hospital is being built on the grounds of the medical school. It has placed a dispensary under the control of the medical school; the city health department work is placed under the control of the medical school, and the governor of the state, the mayor of the city and the important people of the community were back of this movement to develop a strong medical school in that community. They have succeeded in securing two kinds of instructors for the first two years of instruction, and they have definitely agreed to accept this science requirement and the clinical intern year by 1914. The same thing is happening in South Carolina.

Improvement in Medical Schools

DR. N. P. COLWELL: In 1904 there were 166 medical schools, which was nearly one-half of the world's supply of medical colleges. The decrease since that time has been gradual. Since 1907, when the first classification of medical colleges was made, the decrease began rapidly through the disappearance of the commercial medical colleges. These have largely gone out of existence. The number of other schools has been decreased largely through the merger of several small schools in different localities into one stronger medical school, as, for instance, in Louisville, where five medical colleges were merged into one. The same thing has occurred in Indiana, Minnesota, Iowa and a number of other states. The decrease in the number of medical colleges has not been to the detriment of medical education, but has resulted in giving medical students better opportunities. It has brought about fewer but better medical schools.

In 1900 there was but one medical school requiring any education above a high-school course, and conditions remained about the same until 1904, since which time there has been an increase through agitation and indication of the need of these higher preliminary requirements, so that now there are in the neighborhood of sixty medical schools which are exacting a high preliminary requirement.

Six states have gone beyond the Council's minimum requirement of entrance and have gone to the second-year requirement rather than one. There are ten which have gone on to one or two years of college work for their requirement with the adoption of the five-year medical course, including the preliminary year in physics, chemistry and biology. North Carolina has adopted the standard of entrance requirements of the University of North Carolina. The prospects in the South are excellent and it is only a few years when the South will be equal to the North at the rate the South is now progressing.

The European Side of Medical Education

MR. ABRAHAM FLEXNER of the General Education Board, New York City, contributed a paper on this subject, which was read by Dr. George Dock, in the absence of the author.

Among other things, Mr. Flexner said: France and England enjoy certain highly important advantages over us. From them we can at least learn that a hospital is enormously strengthened by an intimate relationship with a medical school and that the free movement of well-trained medical students in its wards is an unmixed advantage to the patient, to the staff, to the student and to medical science itself. The clinical clerk who embodies this relationship is, however, now in a fair way to acceptance in this country. The clerkship was introduced into America by Dr. Osler at the opening of the Johns Hopkins Medical School, and it is being extended as rapidly as conditions permit. It is no exaggeration to say that Germany has no more important contribution to make to us than is represented by this idea, which we have taken from England and France. With this brief reference, the fuller exposition of which would require a separate paper, I shall now turn to my topic in its limited form, namely, the German side of medical education.

A few of the striking features of German medical education are generally understood and appreciated in America, notably the opportunities for research on the part of advanced students and the value of the assistantship in the laboratories and clinics. It is nevertheless surprising how inadequately many of those who have studied in Germany grasp the sources of German strength in the field of medical education, the actual details of its organization, and its failures and defects. Equal vagueness prevails as to the precise extent to which the German system is transferable to us or as to how far its transfer is desirable.

The going to Germany of American students will be construed by laymen to mean that they find something there which is not found with equal ease and in equal abundance in the medical schools of their own land. To what is this superiority, if such it be, due? I attribute it to the fact that a wise and powerful government has drawn a sharp line below which no medical school can live. The German medical faculties are not all equally strong, equally varied, equally resourceful. Their laboratories differ in size, in modernity, in productivity and in efficiency. The German clinics vary in the extent of differentiation, in the number of beds, and in the adequacy and efficiency of their laboratory attachments. In respect to educational standards reached by its students, in respect to the intelligence and capacity of its teachers, and in respect to laboratory and clinical facilities, every medical school in Germany far surpasses what any state in America lays down as the minimum requirements. No boy is permitted to begin the study of medicine in Germany until he has passed through a serious secondary school training covering nine years.

The medical curriculum in Germany practically falls into three unequal divisions. The first comprises physics, chemistry and biology, and is in my judgment treated in a stepmotherly way. The work occupies the first semesters in the university, during which adequate time and at times adequate equipment for sound teaching are lacking. The second division includes anatomy, physiology, pharmacology, pathology and legal medicine. The facilities for teaching and investigation in all these branches are excellent. The third division of the German curriculum is devoted to the clinical branches.

The German medical profession respects, as the American medical profession does not respect, the teacher of medicine. Very properly, the Germans hold that medical teaching is a profession not identical with medical practice. They therefore allow the universities to select their teachers of medicine and surgery where and as they please, and they do not dream of contesting or sharing hospital privileges with these men.

DISCUSSION

Dr. George Dock, St. Louis: Mr. Flexner has called our attention to the imperfect preparation of medical students. Every one realizes this. The question arises, have we as medical educators done enough to overcome this lax preparation in the secondary schools? I think we can do some more. It is a well-known fact that the ideal of study in the secondary schools and colleges is not exactly the one that scholars hold. I think it can be said, without any great risk of contradiction, that the chief idea of the American youth is to learn life, to learn men, and many of them when they go to college frankly admit they do not like to learn philosophy, logic, grammar, mathematics or biology, but to learn life, to learn manners, to learn how to get along, and how to manage other men. I dare say, the method of learning life in the fraternity and on the athletic field has had not a little to do with the great success of many Americans in the practical lines of life. Does it prepare for the profession of medicine? It does not do so, for the profession of medicine requires the most strenuous preparation. From what I have seen of German medical students I believe that everything Mr. Flexner has said is true. They have better-disciplined minds. What they have studied they know better than our men, and for that reason they can take advantage of the medical course better than our students can. Cannot we do more in medical schools in seeing that the preparation of medical students has been carried out in a more fitting way? The men that come from a great many of the colleges and preparatory schools are imperfectly trained in the science of study, in the ability to write and understand and reproduce anything they have read in their own language. We have in some schools and colleges and universities a list of those schools that are supposed to be in good standing, but we all know that many students come from these institutions that are not at all fitted to study medicine. Would it not be possible to blacklist these schools and refuse them recognition when we find that students coming from them are so badly unprepared? It seems to me that something of that kind might be possible.

As to the migration of students from one school to another, I take it that the German medical student does not migrate for the purpose of going to a school or place where there are good courses given, but for the purpose of working with certain men. Sometimes he migrates for social or climatic purposes, but as a rule he migrates to undertake particular kinds of work with particular men. In this country, where the whole course must be extended over nine months, one must give one's entire time to the different courses of study in order to receive any credit, and it is practically impossible to do anything of that kind. For instance, no one could attend a great course in pathology or any other branch in this country without being penalized. Along with our long courses we have another serious handicap as compared with the German students. In Germany they have incentives for work which we fail to have in this country, and so I strongly suspect a certain amount of routinism or bureaucratism is liable to creep in. In Germany students have to take courses they do not care for.

Dr. W. B. Cannon, Boston: I have been impressed by what Mr. Flexner has reported with reference to the spontaneous work which medical students do in Germany throughout the course. There are in the better schools in this country two factors which work against this exhibition of spontaneity on the part of students. In the first place, in schools which require a college degree for entrance, there is a long period of receptivity. The men have to go through four years of college work in which they receive little stimulus for independent work, and then they enter a medical school and have four years more of similar training. Another factor which is unfavorable to the development of this spontaneity is the fact that the medical curriculum is a rigid one. At Harvard University we have felt the need of introducing a certain amount of flexibility in the curriculum, and in order to do that we have instituted two general examinations as a means of passing through the schools. One general examination takes place at the end of the second year, after two years of laboratory work, the other at the end of the fourth year. The student during the first two years can take his own pace. If he does not care to go so fast as other students he can make up that work any time he cares to do so during the first two years. If he becomes interested in some particular subject, he can drop out and work on that particular subject and make up routine work during the remainder of the first two years. If he cares to utilize the summer for special work, which would lead either to the development of special work or to a better acquaintance with some phases of the medical sciences that he would like to follow, then he can do that. We hope by means of thus loosening the rigidity of the medical curriculum to introduce into American medical education some of the spontaneity, some of this expression of individual interest which the German system has so well developed.

Dr. Abraham Jacobi, New York: As far as students are concerned, I think they do quite well in this country, although there may not be so much freedom of action as has been stated, which, however, they are beginning to exercise at Harvard. I think Dr. Eliot made a grave mistake when he allowed young men to select whatever they wanted to study. We should not go too far in that direction. When a young man has lost sight of a subject which he ought to know in the future, he will never study it so easily and earnestly as if he had stuck to it from the beginning. We must take the honey from where it comes, and enjoy it, but we must never forget that we are Americans and not Europeans. We have American boys and not European boys to deal with, and they want different treatment very frequently.

(To be continued)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

IOWA: Lincoln School Building, Des Moines, March 4-6. Sec., Dr. Guilford H. Sumner, State House.

MAINE: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

MASSACHUSETTS: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159, State House.

WYOMING: State House, Cheyenne, March 5-7. Sec., Dr. A. B. Tonkin, Riverton.

Reorganization of the Medical Faculty of the University of Minnesota

Reorganized and condensed with the sole idea of obtaining a more dynamic system of teaching, the faculty of the medical school of the University of Minnesota will begin working on an entirely new basis next fall. The faculty list, compiled after a month of consultation and work by President George E. Vincent of the university, Dean F. F. Wesbrook of the medical school and a committee of faculty members and physicians, has been approved by the board of regents. The present faculty all voluntarily resigned in order to make the reorganization possible, but will continue until the close of the present school year.

Under the reorganization, it is stated, there will be eight departments in the medical school with one professor at the head of each. Under each department will be divisions with associate professors in charge. The reorganization consisted in:

1. Abolishing the title of clinical professor and instructor.
2. Reducing the number of men engaged in clinical work from 120 to 77.
3. Appointing several professors as emeritus professors.
4. Combining several departments under one head.
5. Abolishing the department of chemistry as a department of the medical school.
6. Creating the position of assistant to the dean and secretary to the administrative board.
7. Organizing an administrative board consisting of the dean, heads of departments and the superintendent of the university hospital.

Not all the heads of departments have been appointed yet, the positions being left open so that the dean and the president can work out the best possible teaching system. The heads of departments thus far chosen are: dean of the school, Dr. Frank F. Wesbrook; department of pathology, Dr. H. E. Robertson, associate professor, acting head in charge; department of public health and bacteriology, Dr. F. F. Wesbrook; department of medicine, Dr. Charles Lyman Greene; department of obstetrics, Dr. Jennings C. Litzenberg; department of surgery, Dr. James E. Moore.

Dr. Thomas G. Lee, who has been head of the department of anatomy, will be professor of embryology and of comparative surgery. Dr. Richard Olding Beard, former head of the department of physiology, is to be assistant to the dean.

Under the department of medicine will be the divisions of mental and nervous diseases, with Dr. Arthur S. Hamilton in charge, and the division of pediatrics, with Dr. J. P. Sedgwick in charge.

Under the department of surgery will be the eye, ear, nose and throat division, with Dr. Frank C. Todd in charge, and the division of orthopedia, with Dr. Arthur J. Gillette in charge. No chief of the division of dermatology and genito-urinary diseases has yet been appointed.

This thorough reorganization of the medical faculty at the University of Minnesota is an example of what is needed in many other medical schools in this country. It is a step that could not have been taken a few years ago because then the dropping of certain members from a medical faculty would have meant the formation of another medical school. That it is possible now is a clear evidence of the public demand for better-trained physicians—a demand that will not tolerate the formation of new colleges, but asks for the further improvement of those now in existence.

Massachusetts November Report

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written, oral and practical examination held at the State House, Boston, Nov. 12-14, 1912. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 75, of whom 57 passed including 5 non-graduates and 4 osteopaths, and 18 failed including 4 non-graduates and 5 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1912)	79.8
Kansas Medical College	(1903)	76.6
Hospital College of Medicine, Louisville	(1904)	81.1
Medical School of Maine	(1910) 75.5; (1911)	78.7
Johns Hopkins University	(1911)	84
Maryland Medical College	(1910) 75; (1912)	75
Baltimore Medical College	(1902)	77.9
Tufts College Medical School (1909) 77.3, 81.1; (1910) 77.9; (1911) 78, 79.5, 80.7, 83.1, 85; (1912) 75.8, 75.9, 76.6, 79.2, 79.8, 81.4, 81.8, 82.2, 83.		
Harvard Medical School (1882) 78.7; (1895) 90; (1910) 78.7; (1911) 78.5, 81.9, 82.1; (1912) 75.		
College of Physicians and Surgeons, Boston (1908) 75; (1910) 84.3; (1912) 75, 75.		
Dartmouth Medical School	(1911)	83.2
University and Bellevue Hospital Medical College	(1911)	80.4
University of Pennsylvania	(1912)	83.2
University of Vermont	(1909) 75; (1911)	76
Queen's University, Kingston, Ontario	(1910)	82.4
Laval University, Quebec	(1911)	75
McGill University, Montreal, Quebec	(1912)	80.5
University of Edinburgh, Scotland	(1909)	79.7
University of Würzburg, Germany	(1898)	75
University of Dorpat, Russia	(1887)	75
Non-graduates		75, 75.5, 78.7, 83.5, 85.7

FAILED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C	(1904)	67.1
National Medical University, Chicago	(1909)	44.5
Medical School of Maine	(1891)	58.7
Maryland Medical College	(1912)	67.4
College of Physicians and Surgeons, Boston	(1910)	65.6
University of Vermont	(1912)	63.7
Laval University, Montreal, Quebec	(1912)	71
University of Athens, Greece	(1898)	9.5
University of Naples, Italy	(1907)	*
Non-graduates		62.1, 68.8, 71.4, 71.9

* Caught cheating.

New Hampshire December Report

Mr. H. C. Morrison, Regent of the New Hampshire State Board of Medical Examiners, reports the written examination held at Concord, Dec. 17-18, 1912. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 10, of whom 8 passed and 2 failed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Kentucky School of Medicine	(1906)	78
Medical School of Maine	(1912)	80
Johns Hopkins University	(1911)	88
Tufts College Medical School	(1898) 82; (1908)	75
Boston University	(1912)	85
Dartmouth Medical School	(1911) 85; (1912)	79

FAILED

College	Year Grad.	Per Cent.
Maryland Medical College	(1912)	64
Dartmouth Medical School	(1910)	70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Gross Medical College	(1902)	Vermont
Harvard Medical School	(1903)	N. Dakota
Jefferson Medical College	(1878)	N. Carolina

The Condition of the Mouth as a Cause of Disease.—In searching the body for a possible common source of infection the mouth cannot but arrest attention. In almost every human being it is germ-ridden, and it is capable of infecting the body, either locally, or *viâ* the intestinal tract.—C. Wynn Wirgman in *Clin. Jour.*

Book Notices

PHARMACOLOGY AND THERAPEUTICS FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By Horatio C. Wood, Jr., M.D., Professor of Pharmacology and Therapeutics in the Medico Chirurgical College, Philadelphia. Cloth. Price, $4. Pp. 429, with illustrations. Philadelphia: J. B. Lippincott Company, 1912.

In preparing the new work on pharmacology and therapeutics, the author had in view the needs of the medical student, to whom the science of pharmacology is of value chiefly as affording a basis for practical therapeutics. For this reason the pharmacologic action is closely associated with the therapeutic uses of the various drugs, while the facts of materia medica are stated in separate sections, so that the book can be used in successive years as a text-book of materia medica and later as a text-book of pharmacology; if such a separation is deemed desirable. The arrangement is intended to follow as nearly as possible the classification based on therapeutic uses. This leads to some strange associations; for instance, we find the compounds of bismuth and cerium oxalate classified as counterirritants and set between cantharides and chromic acid. The critical judgment of the author as a student of pharmacology is shown in the practical rejection of a number of drugs, formerly in use, on the ground of lack of therapeutic effect. Among these may be mentioned lithium, cerium oxalate, triticum, senega and others.

An important feature of the work is the introduction of general articles describing such methods of treatment as treatment of acute bronchitis, practical anesthesia, treatment of chronic heart disease, etc. A brief mention is made of some of the well-established proprietaries such as the substitutes for cocain, the proprietary hypnotics, etc. The book is well adapted to the use of the student and teacher of pharmacology and therapeutics.

AN INTRODUCTION TO THE STUDY OF INFECTION AND IMMUNITY. Including Chapters on Serum Therapy, Vaccine Therapy, Chemotherapy and Serum Diagnosis for Students and Practitioners. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology at the College of Physicians and Surgeons, Baltimore. Cloth. Price, $3.25 net. Pp. 301, with illustrations. Philadelphia: Lea & Febiger, 1912.

The great importance of a knowledge of immunity to the practicing physician, and the multiplicity of the facts bearing on this subject derived from recent experimental and clinical work make a complete treatise on the new science opportune. That this work has found in Dr. Simon a competent author goes without saying. The subject has been systematically developed in such a way that the reader becomes gradually acquainted with the new conceptions and phenomena and their accompanying new terminology. The latter half of the volume is devoted to the practical consideration of immunity in various diseases. Good directions are given for the preparation and use of autogenous and other vaccines. The methods of diagnosis depending on immunity reactions are also discussed. The work thus possesses, in addition to the work of its theoretic explanations and discussions, an immediate practical value in that its possession makes it unnecessary for the practitioner to provide himself with a number of special technical laboratory manuals.

THE BLOOD. A Guide to Its Examination and to the Diagnosis and Treatment of Its Diseases. By G. Lovell Gulland, M.A., B.Sc., M.D., Physician to the Royal Infirmary, Edinburgh, and Alexander Goodall, M.D., F.R.C.P.E., Lecturer on Physiology, Royal College of Physicians, Edinburgh. Cloth. Price, $5. Pp. 344, with 32 illustrations. New York: E. B. Treat & Co., 1912.

The present work endeavors to combine the results of laboratory work with that of clinical experience. It covers not only methods of diagnosis, but also pathology and treatment of the various diseases of the blood. In addition, the condition of the blood in other diseases receives a brief description. The authors have had much experience in teaching the subject, and the volume bids fair to be of great practical utility. The book is illustrated by a large number of colored plates showing with beautiful clearness the appearance of the blood in various conditions.

FORENSIC MEDICINE AND TOXICOLOGY. By C. O. Hawthorne, M.D., Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow. Cloth. Third Edition. Price, $1.70 net. Pp. 344. New York: Longmans, Green & Co., 1912.

This is a brief, concise statement covering the subjects of medical jurisprudence and toxicology together with a list of poisons and their antidotes and an outline of method of treatment of each. The book gives neither a bibliography nor a statement of cases illustrating the different points. It is merely a clear statement of what has been determined in the courts (particularly in the English courts) to be the law on the various medicolegal points that have heretofore arisen, and should prove convenient and satisfactory to the student, who will not be confused by a lengthy statement of more or less conflicting legal decisions on any question.

MENTAL DERANGEMENTS IN INDIA. Their Symptoms and Treatment: Being a Handbook to the Theory and Practice of Mental Disease in India, Together with Notes Dealing with the Legal Aspect of Insanity and the Various Questions Likely to Arise Concerning It. By A. W. Overbeck-Wright, M.B., Ch.B., Med. Psych. Cert. Cloth. Price, 9 shillings net. Pp. 366. Calcutta: Thacker, Spink & Co., 1912.

From the title, one might expect to find this book peculiarly related to India. This, however, is not the case. Aside from some peculiarities in legal relations of insanity, it consists of a brief treatise on the theory and practical treatment of insanity.

Medicolegal

Practicing Medicine Without License Not a Continuing Offense

(State vs. Cotner (Kan.), 127 Pac. R. 1)

The Supreme Court of Kansas holds that the statute of that state providing that any person who shall practice medicine in the state without having received and recorded a certificate from the state board of registration and examination shall be deemed guilty of a misdemeanor, and on conviction thereof shall pay a fine of not less than $50 nor more than $200, does not create a continuing offense involving a general course of customary conduct, but penalizes each specific act of practice defined in the preceding section.

The court says that the act of that state, relating to medical registration and examination, is one of a series devoted to the conservation of the public health. Among them is the act creating boards of health, state and local, and conferring on them extensive powers and duties, the pure food law, acts relating to vital statistics, epidemics and quarantine, the analysis of food products, nuisances, water-supply and sewage, tuberculosis, and dangerous diseases, the pharmacy act, and some others. Several of these statutes make onerous requirements of the members of the medical profession in the interest, not of their patients for the time being, but of the public welfare; and it is a matter of general concern that the persons who are to be responsible for the discharge of these obligations should be known, and that their qualifications to render the public service demanded of them should be ascertained. Beyond this, the state is especially interested in the protection of sick people from empiricism and from charlatanry; from the quack who is ignorant of healing, and the faker who is an adept at swindling. Consequently the legislature has provided that any one proposing to practice medicine must apply to the state board of medical registration and examination for leave, prove his qualifications, obtain a certificate of authority, and register it in the county of his residence, before assuming the duties and exercising the privileges of a physician. Should he undertake to practice medicine without a certificate, he is guilty of a crime and liable to punishment.

The subject is of such moment and gravity, and the legislature has dealt with it so carefully and so seriously, that a plea that the taking out of a certificate had been inadvertently overlooked would be an affront. Unless he be of weak mind, whoever ignores the statute does so wilfully, and without any reason to expect acquiescence or toleration on the part of the authorities. Enforcement of the [illegible]'s not left private initiative or the prompting of mercenary motives. That duty is expressly enjoined on the secretary of the board of registration and examination, and all other law officers may be expected to cooperate, as in other cases of infractions of the criminal law. A prosecution is not a mere admonition to take out a certificate, or else desist from practice. Its purpose is punishment. Dilatoriness in the commencement of proceedings, to the extent that they may result in oppression, is not to be anticipated.

The statute has not remitted us to any general understanding of the meaning of the word "practice." By virtue of the legislative definition, to prescribe, for a fee, any drug for the relief of any disease of another person is to practice medicine. It is not necessary that this be done frequently, customarily, or habitually. One isolated instance is sufficient, and the penalty is affixed to each offense. The same is true of surgical operations and other specific acts denounced by the statute. Beside this, any fair consideration of the mischief which the legislature sought to remedy leads to the conclusion that the State Board of Medical Registration and Examination was not created for the simple purpose of attaching its badge to professional careers. The life, health and financial resources of individual men, women and children were to be protected from ignorance and imposture. Each act of unlicensed practice may be fraught with danger. Every repetition is a new peril, and, instead of applying to a continuous course of conduct, the statute specifies and condemns each impulse, to the very end that it may not unite with others in swelling a common stream of action. If the statute be drastic, because the offense may be committed against each patient practiced on, the fact may afford ground for amending the act.

When the defendant opened an office with a doctor's sign over the door, he established a place, the criminal consequence of which merely persisted. Any attempt to split up this persistence into distinct periods of time would be purely arbitrary. But there is nothing arbitrary in taking separate account of the separate cases of the different individuals treated by the defendant on a given date.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Albany (N. Y.) Medical Annals

February, XXXV, No. 2, pp. 63-124

1 *Exophthalmic Goiter and Perverted Thyroid Secretion; and Their Treatment with High-Frequency Electricity. W. G. Lewi, Albany.
2 Electricity in Uric-Acid Diathesis. E. A. Bartlett, Albany.
3 High-Frequency Current in Treatment of High Blood-Pressure. H. Van Rensselaer, Albany.
4 *General Treatment of High Blood-Pressure. S. L. Dawes, Albany.
5 *Clinical and Pathologic Report of a Case of Primary Malignant Disease of Pleura. H. S. Bernstein, Albany.

1. **Exophthalmic Goiter and Perverted Thyroid Secretion.**—In Lewi's opinion all cases of exophthalmic goiter and perverted thyroid secretion, excepting those due to definite tumors, degeneration or inflammation, are caused by a toxemia or irritation of the sympathetic nerve system. Treatment of such cases with high frequency electricity, he says, gives better and more permanent results than any other method of treatment, except where a resort to surgery is imperative. Such treatment has no effect on enlargement of the thyroid due to definite tumor or cyst, although the differentiation between enlargement due to a definite tumor, and colloidal enlargement is so difficult and uncertain in most cases that a resort to high frequency treatment, preliminary to operation, would be justifiable and conservative. In all cases of exophthalmic goiter and perverted thyroid secretion in which an operation is to be performed, Lewi says the patient should have, as a preliminary to operation, a course of high frequency treatment, to the end that the distressing symptoms, especially the tachycardia and nervousness, may be lessened if not altogether relieved and securing for the patient the best condition possible for surgical procedure.

4. Abstracted in The Journal, Aug. 3, 1912, p. 396.

5. **Malignant Disease of Pleura.**—Bernstein's case is that of a woman, aged 69. The family history was negative. Her past history was likewise negative, save for suspected "lung trouble" twelve years previously; from this condition, however, a good recovery had been made. The last illness dated back two months before she came under observation. The chief complaint was that of dyspnea on exertion, and neuralgic pains radiating from the left side of the chest. Walking up-hill or upstairs or walking too far was accompanied with palpitation of the heart and dyspnea. In addition, the patient had become irritable, and although she had kept her usual weight, there had been a marked loss in strength. Cough was absent. On Dec. 29, 1911, the first physical examination gave signs of fluid within the left chest. The temperature and pulse were normal. Thoracentesis yielded 12 ounces of a dark straw-colored fluid. A similar fluid was withdrawn on three subsequent occasions. There had been meanwhile no elevation of temperature and pulse.

Physical examination after the last tapping was as follows: Patient was emaciated, and of a sallow complexion. Respirations were rather rapid and superficial. The left chest was more prominent than the right and motionless. The right border of the heart extended one finger's breadth outside of the right sternal margin. The cardiac area was otherwise undeterminable. The apical sounds, however, were audible well within the mammary line. The left chest anteriorly was flat to the sixth rib. Breath and voice sounds were absent over this area. Posteriorly, dulness extended over the left chest. The respiratory sounds were transmitted, but faint; and the expiration was high-pitched and prolonged. Râles were absent. Over the lower half of the chest, whispered voice was to be heard and spoken voice possessed a nasal quality. Tactile fremitus was diminished. The respiratory sounds in the right chest were exaggerated and harsh. Other observations were negative.

Death came three and a half months after the onset of symptoms. The right pleural cavity had a few firm interlobar adhesions. Its surfaces were otherwise normally smooth, moist, and glistening. The left pleural cavity contained about two liters of a turbid straw-colored fluid with numerous flocculi. The surfaces were dull and lusterless. The parietal pleura was everywhere thickened, averaging 0.5 cm. on section. It was of a tough, leathery consistence and greyish in color, presenting a trabeculated appearance. Scattered about were discrete nodular thickenings, varying from 0.5 to 1 cm. in diameter. A few of these presented a cauliflower-like growth. They were more numerous on the diaphragmatic and on the anterior parietal pleura. One nodule, at the level of the second rib, anteriorly, extended to the visceral layer and into the lung, causing a marked puckering of the lung substance. The area of extension measured approximately 2 by 1.5 cm. The tumor on histologic examination was pronounced a lymph-endothelioma.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

February, LXVII, No. 422, pp. 217-432

6 *When Is High Forceps Operation Justifiable? J. A. Harrar, New York.
7 *Application of Iodin to External and Internal Generative Organs of Women. J. W. Boveé, Washington, D. C.
8 Cesarean Section; Discussion of Twenty-One Cases. S. P. Warren, Portland, Maine.
9 Cesarean Section in Achondroplastic Dwarf. F. J. Taussig, St. Louis.
10 *Pulsations Observed in Primitive Cardiac Tube of Human Embryo in Second Week. W. F. Armann, Ritzville, Wash.
11 Infant Pulmotor: Apparatus for Artificial Respiration on Asphyxiated New-Born. J. C. Edgar, New York.
12 Diagnosis of Extra-Uterine Pregnancy. G. B. Miller, Washington, D. C.
13 Immediate Treatment of Depressed Fractures of Skull in New-Born. G. W. Kosmak, New York.
14 Gilliam Operation for Uterus Suspension. E. J. Ill, Newark, N. J.
15 *New Surgical Procedure for Retrodisplacements of Uterus. S. H. Buteau, Oakland, Cal.

16 Some Diagnostic Pitfalls in Abdominal Surgery. E. W. Hedges, Plainfield, N. J.
17 *How Does Laparotomy Cure Tuberculous Peritonitis? H. O. Pantzer, Indianapolis, Ind.
18 *Ureteral Injuries. H. E. Hayd, Buffalo.
19 *Metrorrhagia Due to Atheroma of Uterine Vessels. A. T. Jones, Providence, R. I.
20 *Indications and Technic in Gastric Resection and Gastro-Enterostomy. G. W. Crile, Cleveland.
21 Large Calcareous Fibroid with Absence of Ovaries and Uterine Ligaments. J. W. Poucher, Poughkeepsie, N. Y.
22 *Ileosigmoidostomy for Colonic Stasis. C. L. Bonifield, Cincinnati.
23 Uterus Septus with Hyperemesis Gravidarum, Interruption of Pregnancy at Three and One-Half Months, Followed by Peritonitis. W. Yates and P. F. Morse, Detroit, Mich.
24 *Stenosis of Pylorus in Infancy. J. W. Keefe, Providence, R. I.

6. **When is High Forceps Operation Justifiable?**—The high forceps operation is always considered a major operation by Harrar, one to be performed only by the trained obstetric operator. It is never to be selected before labor as the ultimate operation; in other words, it is not an elective operation. High forceps is preferable to version in the treatment of dystocia due to contracted pelvis. Before applying the forceps to the floating head, the operator must be assured that the head can be made to engage in the brim of the pelvis with suprapubic pressure properly directed. If in a contracted pelvis the head will not thus catch or bite in the brim, and if there is distinct overlapping, it is almost certain that it cannot safely be delivered with forceps, except with the aid of pubiotomy, and finally, situations do arise in which it is justifiable to apply forceps to the head above the brim: (1) In normal pelves, in delayed dry labor when interference becomes urgent on account of the condition of the mother or child; (2) in deformed pelves of medium degree, when it is possible, with one or two moderate pulls to draw the largest diameters of the head through the pelvic inlet.

7. Abstracted in The Journal, January 11, p. 151.

10. **Pulsations in Primitive Cardiac Tube.**—In a case of abortion occurring six weeks after the last menstruation an intact ovum as large as a hazelnut, of light gray color and with well-developed chorionic villi was secured by Armann. The sac was opened with a pair of scissors and he observed distinct pulsations in the primitive heart. The embryo was 2.5 mm. long and the yolk sac was distended and as large as a lentil. The well-marked rhythm of the heart was noteworthy and Armann was able to count ninety pulsations per minute. The cardiac tube was as large as the head of a pin and no auricle or ventricle could be determined. The contractile movement continued for at least fifteen minutes without interruption, but after this became less distinct, slower, more superficial and lasted only about five minutes longer before it disappeared entirely. The specimen was placed in alcohol and subsequently measured and compared with the plates in Kollman's embryology. It was found that the specimen corresponded in size to an embryo of about fourteen days, which agreed with the history given by the patient.

15. **Retrodisplacements of Uterus.**—Buteau describes his operation as follows: After finishing all other work in the abdomen, pick up the round ligament with a small volsellum or forceps. Gentle traction will make the ligament taut and thus direct the finger to the internal abdominal ring. With the finger outlining the ring, the arched fibers of the transversalis muscle can readily be felt above. At this point, just above the tendon of the round ligament, a suture of whatever material determined on is introduced on a curved needle, from below upward, sufficiently deep to secure a good bite of the transversalis muscle. This suture is now anchored and will include peritoneum, transversalis fascia and muscle. External pressure over the internal ring will facilitate this step of the operation. The peritoneal coat of the distal end of the round ligament is now pierced and a continuous suture, subserous chiefly, is run parallel with the round ligament up to ¼ inch of its uterine attachment. The broad ligament is then pierced a short distance from the uterus beneath the ovarian ligament. This ligament may readily be included in the suture in such a way as to take up its slack, if prolapsus of the ovary is present. The needle is then made to enter the posterior wall of the uterus just beneath the serous coat, passing slightly downward and inward to the median line. This procedure is carried out in like manner on the opposite side. The two free ends of the suture are now tied with a single knot and sufficient tension is made to produce the degree of anteflexion required. The knot is now made secure.

17. **How Does Laparotomy Cure Tuberculous Peritonitis?**—It is suggested by Pantzer that the effects of a laparotomy for peritoneal tuberculosis must be associated with the active absorption, from the abdomen, of fluids engendered by the disease itself. He is inclined to regard such fluids found in the abdomen of these cases, as consisting of an autogenous tuberculin, associated or not, with antibodies.

18, 19, 20, 22 and 24. Abstracted in The Journal, Oct. 5, 1912, pp. 1316 and 1317.

American Journal of Public Health, New York

January, III, No. 1, pp. 1-100

25 Health Departments and Housing. C. B. Ball, Chicago.
26 Room Overcrowding and the Lodger Evil. L. Veiller, New York.
27 *Deaths from Tuberculosis in Fifth Ward (Philadelphia) During Period of Fort-Seven Years. F. A. Craig, Philadelphia.
28 The 37° Bacterial Count. G. C. Whipple, Washington, D. C.
29 Experiences with Stokes' Bile Media for Sending Cultures to Laboratories. J. P. Simonds, Galveston, Tex.
30 *Toxicity Studies with Coal-Tar Disinfectants. W. Hale, Washington, D. C.
31 Plague-Like Organism from Rat. J. F. Anderson and A. J. McLaughlin, Washington, D. C.
32 Limitations of Phenol Coefficient in Standardization of Disinfectants. E. B. Phelps, Boston.
33 Common House Roach as Carrier of Disease. R. C. Longfellow, Toledo, Ohio.
34 Bacteriologic Examination of Foods, with Special Reference to Gelatin. S. C. Prescott and C. A. Magoon.
35 Pathologic Dangers to Domestic Animals from Contaminated Streams. H. N. Parker, Champaign, Ill.
36 Methods Employed and Results Obtained in Improving Milk-Supply of Springfield, Mass. J. A. Gamble, Springfield, Mass.

27. **Deaths from Tuberculosis.**—Of the 2.248 deaths which Craig investigated, 353 or 15.7 per cent. of the total number, occurred within a period of four years following a previous death in the same house. This does not include the primary case, but only the subsequent cases. In other words, 15.7 per cent. of all the deaths in forty-seven years were possibly due to house infection. Of the 353 cases, 62 were apparently related. Of the 540 cases occurring in houses in which a previous death had occurred 65.3 per cent. of them came within the four-year period. During forty-seven years 14.4 per cent. of all the houses in the ward or 18.4 per cent. of all the houses in which a death from tuberculosis occurred contained 15.7 per cent. of all the deaths which could be possibly due to house infection or infection in the house. Of the 182 deaths in children, fifty-two or 28.6 per cent. occurred in a house in which a patient had died within a period of four years with tuberculosis. In twelve instances they appeared to be related to the previous case. In the children the highest percentage of deaths occurred in the same year, while in the adults in the following year. This Craig explains by the longer duration of disease in adults as compared to the children in which it runs a relatively rapid course. He concludes that a large percentage of the deaths from tuberculosis occurs in a relatively small percentage of the houses, and that in tuberculosis house infection must be considered as one of the most fruitful sources of infection, and should, therefore, be made the object point of any attack on the disease.

30. **Toxicity Studies with Coal Tar Disinfectants.**—Hale found that the coal tar disinfectants of the phenoloid group are considerably less toxic than either phenol or the cresols, but they are not harmless, non-poisonous substances and on an average have a toxicity equal to about 20 per cent. phenol. Manufacturers and retailers accordingly should be required to revise present labels and to designate such products as toxic by the use of suitable poison labels. Until this is done, Hale advises that physicians and health officials who recommend disinfection should warn the general public of the danger of such solutions and urge on it greater care in storage than is now common practice.

Archives of Pediatrics, New York

January, XXX, No. 1, pp. 1-80

37 *Inflammatory Affections of Nasal Accessory Sinuses in Children. S. Oppenheimer, New York.
38 Nervousness in Children: How to Prevent It. T. A. Williams, Washington, D. C.
39 Relation to and Influence on Respiration During Childhood of Normal and Abnormal Dental Arches. A. Zentler, New York.
40 Feeding in Relation to Teeth. G. C. Kusel, Philadelphia.
41 Dental Prophylaxis. P. B. McCullough, Philadelphia.
42 Relation Between Abnormal Breathing and Malocclusion. S. M. Weeks.

37. **Inflammatory Affections of Sinuses.**—It has been Oppenheimer's experience that in young children radical external operative procedures for the relief of purulent sinusitis are rarely indicated and are not as productive of satisfactory results as the more conservative intranasal procedures, and while the same may be said of older children, yet in such, when the sinuses approach the adult type, the same indications for treatment and the same operative procedures apply as in the adult.

Arizona Medical Journal, Phoenix

January, I, No. 3, pp. 1-77

43 Sanatorium Treatment of Tuberculosis. L. S. Peters and E. S. Bullock, Silver City, N. M.
44 Practical Significance of Diagnostic Tuberculin Reaction. W. C. Klotz, Douglas.
45 Tuberculosis: Disease of the Individual. W. W. Watkins, Phoenix.
46 Strabismus Question. H. H. Stark, El Paso, Tex.
47 Diagnosis and Treatment of Some Surgical Diseases of Stomach. C. P. Thomas, Los Angeles, Cal.
48 Physiologic Antidote to Phenol Poisoning. H. A. Reese, Bisbee.

Boston Medical and Surgical Journal

February 13, CLXVIII, No. 7, pp. 221-260

49 Diseases of Middle Ear and Mastoid Cells, Based on Study of 454 Autopsies and 2,232 Cases of Diphtheria, Scarlet Fever and Measles. C. B. C. Borden, Boston.
50 Diagnosis of Feeble-Mindedness Among Immigrants. J. G. Wilson, New York.
51 Persistent Mouth-Breathing Following Adenoidectomies. 1. Sobotky, Boston.
52 Retrograde Catheterization in Ruptures of Urethra. C. G. Cumston, Boston.
53 Teeth and Their Relation to the Body. G. H. Wright, Boston.
54 Oral Prophylaxis. H. W. Adams, Boston.
55 Purpose of Forsyth Dental Infirmary. T. Leary, Boston.
56 Scientific, Economic and Social Program of Forsyth Dental Infirmary. H. D. Cross, Boston.
57 School Inspection and Dental Caries. W. J. Gallivan, Boston.

Bulletin of Johns Hopkins Hospital, Baltimore

February, XXIV, No. 264, pp. 33-68

58 *Spirochetosis. G. H. F. Nuttall, Baltimore.
59 *Hypophysis in Metabolism of Carbohydrates: Autonomic Control of Hypophysis Cerebri. L. H. Weed, H. Cushing and C. Jacobson, Boston.
60 *Induced Pneumothorax in Treatment of Pulmonary Disease. L. Hamman and M. F. Sloan, Baltimore.

58. **Spirochetosis.**—There are represented in the blood-inhabiting spirochetes of warm-blooded animals, says Nuttall, a group of microorganisms which, under natural conditions, are mainly conveyed by blood-sucking ectoparasites within which they undergo a process of development and in which they are hereditarily transmitted. Spirochetes are not specialized parasites. Infection may take place through the skin or mucous membrane to which the spirochetes gain access by being deposited thereon in the arthropod's dejecta or by the infested individual scratching or rubbing himself with hands which have become contaminated with the contents of the vermin which they have crushed. The lesions produced by the bites of the arthropods and the excoriations inflicted on the individual by himself greatly facilitate the entrance of the spirochetes.

59. **Hypophysis in Metabolism of Carbohydrates.**—From the results of the experiments cited by the authors it is fair to assume the existence of a nervous control on the part of the sympathetic system over one form at least of the secretory activities of the hypophysis. The particular function of the gland—and presumably of its posterior lobe—concerns the elaboration and discharge of a substance capable of evoking glycogenolysis. Provided there is a storage of glycogen available for discharge; a piqûre of the hypophysis in the rabbit is comparable, in its glycosuric response, to a piqûre of Bernard's so-called sugar center in the fourth ventricle. Stimulation of the superior cervical ganglion, by faradization or even by the manipulations necessary for its exposure, causes glycosuria in the rabbit, cat and dog. Stimulation of the superior cervical ganglion after separation of all synapses of the sympathetic system by administration of nicotin, causes glycosuria. Direct faradic stimulation of the hypophysis itself, after exposure by a transphenoidal operation, gives glycosuria even after preliminary transection of the spinal cord and cervical sympathetic trunks. If the posterior lobe of the hypophysis has previously been removed by operation the usual stimulation of the superior cervical ganglion fails to give glycosuria. Direct faradic stimulation of the hypophysis provokes glycosuria even after transection of the spinal cord above the splanchnics. A Bernard piqûre will likewise cause glycosuria even after transection of the spinal cord above the splanchnics. The authors conclude, therefore, that the hypophysis and more particularly its posterior lobe, plays a significant rôle in the metabolism of carbohydrates, and its action in this respect is under the control of fibers which reach the gland by way of the superior cervical sympathetic ganglion. Stimulation of this nervous pathway at the so-called sugar center in the fourth ventricle, at the superior cervical ganglion, and by excitation of the hypophysis itself, liberates a chemical substance which causes glycogenolysis and glycosuria, independent of any possible nervous impulse reaching the glycogen-holding cells of the muscles or abdominal viscera.

60. **Induced Pneumothorax in Pulmonary Disease.**—Induced pneumothorax is pronounced by the authors to be a harmless procedure and the operation, carefully performed, is without danger. In three out of twenty cases it was impossible to produce any pulmonary collapse owing to general pleural adhesions. Of sixteen cases in which pneumothorax was successfully produced, in but seven was the pneumothorax complete. Of nine cases with induced pneumothorax existing for four months or longer four have developed pleurisy with effusion. The pneumothorax has, in most instances, an immediate and striking influence on the cough and expectoration. Tubercle bacilli may disappear from the sputum. Constitutional symptoms abate more slowly. In most instances there is at first a loss in weight followed by a gradual rise. The total collapse of one lung causes surprisingly little inconvenience. Usually there is but slight dyspnea on exertion. Many of the patients with an induced pneumothorax assist actively in the work about the sanatorium. The procedure is of great value in the treatment of pulmonary hemorrhage. While they believe that induced pneumothorax will never become a routine method for the treatment of pulmonary tuberculosis, still in selected cases it offers a prospect of temporary and permanent relief when the usual methods of treatment have been unsuccessfully tried. Quiescent lesions in one lung with acute recrudescence in the other are the most favorable for the treatment. Its use need by no means be limited to strictly unilateral lesions, but when there is advanced disease of both lungs little benefit can be expected. It would seem advisable not to withhold the treatment until the patient is hopelessly advanced, but to apply it judiciously to suitable moderately advanced patients in whom the disease tends to progress in spite of appropriate treatment.

California State Journal of Medicine, San Francisco

February, XI, No. 2, pp. 39-96

61 Tonsils and Adenoids: Their Significance. G. H. Kress, Los Angeles.
62 Operative Treatment for Tic Douloureaux of Inferior Dental Nerve. C. G. Levison, San Francisco.
63 Some Factors in Habitual Constipation. R. Russ, San Francisco.
64 Feeding in Later Infancy. H. H. Yerington, San Francisco.
65 Dietetics from Modern Standpoint. A. W. Williams, Hayward.
66 Case of Lipectomy (Abdominal). H. E. Castle, San Francisco.
67 Case of Double Tubal Pregnancy. D. Hadden, Oakland.
68 Technic of Removal of Foreign Bodies and New Growths from Esophagus. W. P. Millspaugh, Los Angeles.

69 Prophylactic Measures for People Growing Blind in Later Life. S. Heller, Hohe Warte, Wien.
70 Gasserectomy. J. H. Barbat, San Francisco.

Canadian Medical Association Journal, Toronto

February, III, No. 2, pp. 87-166

71 *Diagnosis and Treatment of Subacute and Chronic Pancreatitis. E. Archibald and E. J. Mullally.
72 Nature of Surgical Shock and Its Treatment. W. Webster.
73 Medical Inspection of Schools. H. MacMurchy, Toronto.
74 Toxic Effects of Gasoline Fumes. J. G. Johnson, Montreal.

71. **Subacute and Chronic Pancreatitis.**—Many of the attacks of acute pain in the upper abdomen, which pass off in a few hours or a few days, are believed by the authors to be due to a subacute swelling of the pancreas, and are often set down vaguely as acute gastritis, or gastric fever, or gastric ulcer, or are allowed to go without diagnosis. They examined the records of thirty-two cases of pancreatitis, acute and chronic, all of which were proved by operation or by autopsy. Gall-stones were present in only thirteen; and in only four of these thirteen was the stone in the common duct. The analysis of the symptoms leads Archibald and Mullally to the conclusion that the diagnosis is frequently not especially difficult, not nearly so difficult, for instance, as in the very acute cases with hemorrhage and necrosis. Of eleven cases in Archibald's service it was possible in seven to establish a reasonably sure diagnosis before operation.

The feature of outstanding importance is usually pain in the upper abdomen, recurring at irregular intervals. The situation of the pain is nearly always in the mid-epigastrium. It was so in eighteen of the twenty-one cases, while in three it is set down as being in the right upper quadrant. The sufferer from a gall-stone attack, on the request to place his hand over the site of pain, usually indicates the region of the upper right rectus or further outwards; while the victim of pancreatic swelling will almost invariably put his hand directly in the mid-line, or sometimes a little to the left. This is true except during the extremely acute phase of hepatic colic, when the pain is so severe that it frequently occupies indiscriminately the whole upper abdomen and cannot be referred to any one area in particular. But when the initial pain has somewhat subsided, the value of the localization indicated is considerable. Certain exceptions must be noted. Thus, the authors have been led into the error (chiefly by this sign) of diagnosing pancreatitis when the real lesion proved to be an acute interstitial cholecystitis, the gall-bladder occupying an unusual position close in toward the median line. The tenderness can frequently be elicited on the left side, as well as in the middle and a little to the right. It rarely extends more than 1 inch to the right, whereas in some cases, when the swelling affects the whole gland, the tenderness may be followed out nearly to the tail of the pancreas. The point of maximum tenderness is usually found to be exactly in the midline, from 1 to 2 inches above the umbilicus. Sometimes this maximum tenderness extends half an inch or an inch to the right, or an equal distance to the left. In the authors' opinion this is merely the result of the fact that the swelling of the pancreas occupies usually the head and isthmus of the gland, less often the tail, and also that in the mid-line the pancreas is nearest to the surface, and lies on the prominent bony bed of the vertebral bodies. While spontaneous pain referred to the epigastrium, being as it is of a subjective character, is notoriously of uncertain value in diagnosis, this sign of tenderness to pressure is of very much greater value, inasmuch as it is objective.

The radiation of pain has no regularity. The degree of pain is frequently characterized by its extraordinary severity. Its duration is very variable, being according to the severity of the attack. The recurrence of the attacks also varies widely. The incidence of pain in regard to the taking of food seems to be most uncertain. Like appendicitis, pancreatitis is typically relapsing. In five of these nineteen cases, the relapse ultimately took the form of the acute necrosing or hemorrhagic pancreatitis, ending in death. Chronic relapsing pancreatitis is therefore a dangerous disease, more dangerous certainly than appendicitis. The presence of palpable tumor is rare. The symptom of jaundice, in cases in which common duct stones are excluded, is of but moderate value in diagnosis. Vomiting is present as a rule; in three of the twenty-one cases it was absent. Rigidity is usually remarkable by its absence, or its slightness, except in the later stages of the more acute cases, when the peritoneum becomes involved. The treatment is surgical. A cholecystostomy is always indicated.

Cleveland Medical Journal

January, XII, No. 1, pp. 1-88

75 *Complement-Fixation Test in Gonorrhea. H. L. Rockwood, Cleveland.
76 *Present-Day Conceptions of Pathologic Physiology of Exophthalmic Goiter from Surgeon's Viewpoint. G. W. Crile, Cleveland.
77 Thyroid in Its Relation to Exophthalmic Goiter. D. Marine, Cleveland.
78 Vernal Conjunctivitis. R. B. Metz, Cleveland.
79 Actions of Caffein. P. J. Hanzlik, Cleveland.

75. **Complement Fixation in Gonorrhea.**—In a series of 193 tests a positive reaction for gonococcal antibodies was secured by Rockwood in no case in which the absence of a gonococcus infection was certain. Two cases in which a urethral infection had been present more than four weeks and in which the urethral discharge contained Gram-negative intracellular diplococci, at the time of test gave a negative reaction. In over 80 per cent. of cases in which the possibility of an active gonococcal infection was indicated, either by the bacteriologic findings or the history, the blood examination was positive. Of patients clinically cured over 80 per cent. gave a negative reaction, and in no case in which a negative reaction has been found has there been evidence of recurrence of the previous infection. In nearly all of the various clinical tests a certain amount of error is to be expected. The fixation test in gonorrhea is probably no exception. From the results obtained in this series of cases, however, it seems that this test has great value from a clinical standpoint.

76. **Surgical Aspects of Graves' Disease.**—Crile says that every case of Graves' disease should first be given rest, real psychic rest, diverting rest; and if not relieved then an early surgical operation will relieve or cure. If the operation is timely the result is almost certain; but, as in operations for cancer, if late, the result depends on the amount of preventable damage already done; surgery offers to forge one of the links, frequently an indispensable link, in the chain of cure.

Delaware State Medical Journal, Wilmington

January, IV, No. 2, pp. 1-26

80 Importance of Early Diagnosis and Prompt Action in Certain Conditions. G. I. McKelway, Dover.
81 Homeopathy: Past and Present. F. F. Pierson, Wilmington.

Illinois Medical Journal, Springfield

February, XXIII, No. 2, pp. 125-248

82 Goiter. C. H. Mayo, Rochester, Minn.
83 Plea for Improved Hygiene in Management of Surgical Tuberculosis. J. W. Pettit, Ottawa, Ill.
84 What Should Be Done with Tuberculous Puerperae and Their Children? C. S. Bacon, Chicago.
85 Examination of Employees for Tuberculosis. T. B. Sachs, Chicago.
86 Use of Tuberculin in Diagnosis and Treatment. W. H. Buhlig, Chicago.
87 *Inhalation Treatment: New Apparatus. H. M. Thomas, Chicago.
88 Bronchial Asthma. J. M. Patton, Chicago.
89 Carcinoma of Uterus in Non-Pregnant and Pregnant. A. B. Keyes, Chicago.
90 *Treatment of Hemorrhoids. W. Van Hook, Chicago.
91 *Duodenal Ulcer. E. B. Cooley, Danville, Ill.
92 Epilepsy and Crime; the Cost. W. Healy, Chicago.

87. **Inhalation Treatment.**—The benefits which Thomas thinks are established as a reason for the general use of antiseptic nebulae in the treatment of the respiratory tract are: (1) The respiratory capacity is increased. (2) The catarrhal condition of the air-passages is diminished, thereby aiding a better introduction of air into the lungs. (3) The pulmonary passages are kept in an aseptic condition and the danger of new bacillary invasion minimized. (4) The marked relief of cough and dyspnea. (5) The alimentary tract is [illegible] turbed by drugs, giving ample oppor[illegible]y for the in[illegible]

vital resistance by suitable diet and constitutional treatment. Thomas is convinced that the treatment by the inhalation of antiseptic nebulae is rational and practical, and therefore he has designed a new apparatus which safely combines steam, sterilized compressed air and definite drug medication for treatment of the respiratory passages.

90. **Treatment of Hemorrhoids.**—The simplest operative procedure for hemorrhoids in Van Hook's opinion consists in excising the masses by oval incisions, the axes of the incisions being parallel with the sphincter muscle. The muscle need not be injured. The incisions are carefully closed by many interrupted catgut sutures. A dressing of heavy zinc oxid ointment is applied.

91. Abstracted in The Journal, June 8, 1912, p. 1777.

Iowa State Medical Society Journal, Clinton

February, II, No. 8, pp. 519-624

93 Practical Applications of Labyrinthine Studies. E. R. Lewis, Dubuque.
94 Arteriosclerosis. J. F. Clarke, Fairfield.
95 Etiology and Pathology of Arteriosclerosis. B. L. Eiker, Leon.
96 *Use of Roentgen Ray in Diagnosis of Heart Disease. W. L. Bierring and T. A. Burcham, Des Moines.
97 Use and Comparison of Nasal Dressings. W. S. Windle, Oskaloosa.
98 Psychoneuroses and General Practitioner. F. G. Murphy, Sioux City.
99 *Subacute Combined Degeneration of Spinal Cord. C. Van Epps, Iowa City.
100 Office Business Methods. H. G. Langworthy, Dubuque.

96. **Roentgen Ray in Heart Disease.**—As a diagnostic aid, the authors have found that the Roentgen ray examination of the heart has a distinct value, but only as a supplement or adjunct to the other clinical methods of examination.

99. **Degeneration of Spinal Cord.**—Six cases have been studied by Van Epps. Two were women. The ages varied from 47 to 52 years. Only one had been an alcoholic and all gave no evidence of syphilis. In only one was there a family history of organic spinal cord trouble. Two of the patients were emaciated, three were fairly well nourished and one was well nourished. Diarrhea preceded or accompanied the nervous symptoms in four cases. The initial symptoms were numbness and tingling in the hands in two, in the feet in two cases and the others complained of persistent nausea, vomiting and gastric distress. The principal complaints were pain and weakness in the legs, staggering gait and bladder trouble. Of the three cases followed to death the duration was respectively 24, 26 and 36 months. Five were bed-ridden when first seen. Three developed in the latter half of the disease, marked mental symptoms, one being delirious at times, another became irritable with delusions and hallucinations and the third became confused, disobedient and untidy. The blood counts revealed a varied reduction in the reds ranging from 2,350,000 to 3,900,000, the whites from 4,400 to 9,200 and the hemoglobin from 37 to 56 per cent. by Sahli. In the two cases in which the morphology of the reds was noted moderate anisocytosis and poikilocytosis were found. The differential count of the whites revealed no marked variation. In four cases there was bladder trouble. In four cases the knee-jerks were increased and a Babinski was present in five. Sensory disturbances were present in five cases. Pallesthesia was most reduced, discrimination next, pain still less and tactile perception least of all. In two cases with complete loss of pallesthesia over the legs tactile perception was intact. Lumbar puncture in one case returned a normal cerebrospinal fluid. A post-mortem was obtained on the most typical case. Aside from the cord changes no definite pathology was found. The cord was removed up to the eighth cervical segment. The posterior lateral columns were involved throughout, most markedly in the mid-thoracic region. The principal change was a vacuolation due to destruction and absorption of the nerve fibers. This process was somewhat patchy and apparently began in the central portions of the columns referred to. A Marchi revealed a marked fat reaction showing the recent nature of the pathology. In the cervical cord the columns of Goll were involved in an ascending secondary degeneration. The blood-vessels were slightly distended. The meninges, anterior and posterior roots were normal. The cells of the anterior horns were normal but those of Clark's column were shrunken and indistinct. There was in no part evidence of an inflammatory reaction. The morbid anatomy suggests that the process is primarily a toxic destruction of the nerve fibers with secondary changes in related cells and tracts.

Journal of Cutaneous Diseases, New York

February, XXXI, No. 2, pp. 71-144

101 *Epithelioma of Lip. W. A. Pusey, Chicago.
102 Seborrhea of Lower Lip and Its Relationship to Epithelioma. D. W. Montgomery, San Francisco.
103 *Lingual and Oral Mucous Membrane Disturbances in Pernicious Anemia. F. Wise, New York.

101. **Epithelioma of Lip.**—Pusey is convinced, more than ever, that, used with attention to technic and with proper regard to their therapeutic indications the Roentgen ray is one of the most useful or the most useful single agent of treatment in the service of dermatology.

103. **Pernicious Anemia.**—Montgomery says that seborrheic lesions in their early stages almost always yield readily to treatment either with trichloracetic acid or with the Roentgen ray. Neglect of this seborrheic condition is deplorable, because attention to it may often prevent the occurrence of a cancer. And if a cancer has appeared, and has been removed by operation, attention to the seborrheic crusts may prevent a new one forming.

Kansas Medical Society Journal, Kansas City

February, XIII, No. 2, pp. 43-94

104 Tonsils and Adenoids. H. L. Scales, Hutchinson
105 Artificial Infant-Feeding. J. T. Scott, St. John.
106 Syphilis. M. K. Lindsey, Topeka.
107 Treatment of Lobar Pneumonia. X. Olsen, Clay Center.

Maine Medical Association Journal, Portland

February, III, No. 7, pp. 1175-1218

108 Present Status of Modern Obstetrics. E. Cragin, New York.
109 Obstetrics. P. W. Davis, Portland.
110 Use and Abuse of Digitalis. H. W. Sampson, Togus.

Medical Record, New York

February 15, LXXXIII, No. 7, pp. 277-322

111 *Centenarians and Nonagenarians. W. G. Thompson, New York.
112 Present Status and Future Scope of Thoracic Surgery. D. Stetten, New York.
113 Public Protection Against Mental Defectives in Paris. E. Castelli, New York.
114 Hodgkin's Disease. J. D. Morgan, Washington, [illegible]
115 *Scarlet Fever: Is Desquamatory Stage Co[illegible]gious? F. H. Mead, San Diego, Cal.
116 Associated Outpatients' Clinics of [illegible] of New York—A Social Force. E. H. Lewinski-Cor[illegible], New York.
117 Indicanuria and Phosphates. J. Ca[illegible], Chicago.

111. **Centenarians and Nonag[illegible].** Reviewing this subject at great length, Thompso[illegible] that there are many modern theories to explain ex[illegible] longevity on the basis of individual peculiarities, f[illegible] the intestinal chronic toxemia idea of Metchnikoff to [illegible] ductless gland idea of Lorand, particul[illegible] thyroid failure, but no one theory appears appli[illegible] to a minority of cases. In many persons the attain[illegible] nonagenarian age appears to be due chiefly to favora[illegible] environment, and freedom from harassing worries and [illegible] They have not been buffeted by the world's cares [illegible] and are blessed with serenity of mind and unifo[illegible] On the other hand, longevity is about equall[illegible] among the struggling poor. A majority of nonagenar[illegible] history of long lived ancestry, and there are many [illegible] remarkable for this characteristic, but it is not an ess[illegible] by any means, for a line of such ancestry may [illegible] by intervention of infectious diseases or by the un[illegible] irrational habits of individuals.

All [illegible] considered, however, heredity appears to be a much [illegible] factor in producing nonagenarians than any special [illegible] of diet or hygiene, for the latter [illegible] and [illegible] the greatest variety in different [illegible] to pr[illegible] longevity is largely a matter of nat[illegible] extre[illegible] very often exhibit no predominat[illegible] That [illegible] of any one disease to which their death is attributable, is a striking fact. They may become so universally sclerosed and atrophic that a general weakness is their only complaint, and although they may have marked arteriosclerosis, nephritis, or myocardial change, the more active symptoms which characterize such diseases early in life may be entirely wanting. They rarely show marked edema, for example, and the typical picture of the last stages of failing compensation of the heart, so familiar in early life, the orthopnea, cyanosis, and general anasarca, etc., is very rarely met with. They die suddenly and peacefully—it is as if the clock had run down. Hence in the mortality statistics "senility" is so often given as the cause of death and accepted by the health authorities without further question.

115. **Scarlet Fever.**—Summarizing his own opinion on the matter Mead points out that statistics show that in only a very small percentage of cases do secondary cases of scarlet fever arise from exposure to desquamation. Only a comparatively small number of persons thus exposed catch the disease. In the very few cases which have developed from desquamation it is probable that the desquamation was infected from discharges from the nose, throat or ears.

Michigan State Medical Society Journal, Battle Creek

February, XII, No. 2, pp. 67-148

118 Altruism in Medicine. W. H. Sawyer, Hillsdale.
119 Every-Day Surgery. M. D. Bird, Marinette, Wis.
120 Roentgen Diagnosis of Diseases of Stomach. P. M. Hickey, Detroit.
121 Some Embryologic, Anatomic, Histologic and Clinical Facts Concerning Thyroid, with Suggestions as to Practical Application. M. F. Porter, Ft. Wayne, Ind.
122 Disturbances of Motor Functions of Stomach. B. A. Shepard, Kalamazoo.
123 Diagnosis of Traumatic Hysteria. H. B. Knapp, Ionia.
124 Ionization in Treatment of Superficial Epitheliomas. J. Solis, Ann Arbor.
125 Diagnosis of Tuberculosis in Infancy and Childhood. C. H. Johnston, Grand Rapids.

New Jersey Medical Society Journal, Orange

February, IX, No. 9, pp. 437-490

126 Eugenics from Point of View of Ophthalmologist. C. P. Franklin, Philadelphia.
127 Syphilis of Nervous System. I. Surnamer, Paterson.
128 Treatment of Syphilis. G. Fischer, Paterson.
129 Acute Abdomen. W. Freile, Jersey City.
130 Sore Throat and Diphtheria. H. I. Goldstein, Camden.
131 Problem of Mental Deficiency in Its Relation to Medical Profession. L. M. Halsey, Williamstown.
132 Physical Defects in Their Relation to Penal Discipline. G. L. Orton, Rahway.

Oklahoma State Medical Association Journal, Muskogee

February, V, No. 9, pp. 391-440

3 Fatalities During and Immediately Following Labor. L. S. Willour, McAlester.
General Practitioner as Obstetrician and Gynecologist. J. B. Smith, Durant
Gastro Intestinal Disturbances Complicating Pregnancy. C. D. Blachly, Norman.
'terine Reflexes. L. B. Torrance, Okmulgee.
xperiences in Early-Day Obstetrics Among Indians. D. Long, Duncan.
ignosis of Fevers Without Manifest Physical Signs. C. J. 'ishman, Oklahoma City.

FOREIGN

rked with an asterisk (*) are abstracted below. Single and trials of new drugs are usually omitted.

British Medical Journal, London

February 1, I, No. 2718, pp. 205-264

Flora of Uterus in Relation to Fibroids and Cancer. :and-Sutton.
il Exophthalmic Goiter. H. L. McKisack.
of Entry of Tubercle Bacillus, Especially in Child- :. E. Emrys-Roberts.
ies of Tuberculin in Treatment of Tuberculosis. N. Raw.
rolled" Therapeutic Use of New Tuberculin in Treat- .t of Pulmonary Tuberculosis. E. E. A. T. Rigg.
ic Acid Ratio of Urine After Tuberculin. A. H. Gregson.
ar's Experience of Dioradin in Surgical Tuberculosis. Stoney.
ic Hemorrhage and Other Complications in Case of .ldbirth. W. D. Sturrock.
of Cardiac Asthma. C. Wilson.

2. **Atypical Exophthalmic Goiter.**—McKisack suggests that the name "exophthalmic goiter" be as far as possible discarded and that the condition be spoken and thought of as "hyperthyroidism." This term would include all degrees of the abnormal condition, while the more usual description, "exophthalmic goiter," merely suggests two of the chief, but by no means the most constant, symptoms.

4. **Tuberculin in Tuberculosis.**—After treating over 600 patients with injections of tuberculin, Raw is convinced that it is a remedy of the greatest value, especially in early cases and when the deposit of tubercle is localized, as in one apex or in a lymph-node or single joint; but when the tuberculosis is disseminated and complicated by secondary infections the use of tuberculin cannot be expected to be of much avail. It ought, however, to be tried in every case with the hope of some relief or possible benefit, as we cannot allow the patient to suffer and die without making every effort to arrest the progress of the disease. Tuberculin is not going to revolutionize the treatment of tuberculosis. It is a valuable aid to the other methods of treatment, hence it must be used with care and discrimination and with a full knowledge of its dosage and therapeutic effects. The best treatment we can offer to-day to a person infected with tuberculosis is a prolonged open-air life, preferably in a well-conducted sanatorium, excess of nutritious food, gentle exercise followed by plenty of rest and a course of tuberculin by a careful physician.

5. **"Controlled" Therapeutic Use of Tuberculin in Lung Tuberculosis.**—Observations were made by Rigg on the comparison of afebrile cases of pulmonary tuberculosis treated for three months, half with tuberculin and half without the cases being compared at the beginning and end of this period. The net result of these observations is to show that the administration of new tuberculin by one of the more popular approved methods is not followed by greater improvement in the physical signs, nor by greater increase in weight, nor by more greatly increased capacity for physical work, nor by a greater improvement in the general condition, as compared with the results of ordinary hospital methods. The observations on the signs do not support the idea that tuberculin in any way lessens the activity of a local lesion. It is possible that the less favorable influence on weight, the less capacity for work and the falling off of the general condition are due to the disabilities imposed on the patient by being treated with tuberculin, as they so often were kept in bed to help restore the temperature to normal.

Indian Medical Gazette, Calcutta

January, XLVIII, No. 1, pp. 1-44

10 History of I. M. S. D. G. Crawford.
11 Recent Research on Cholera in India. E. D. W. Greig.

Lancet, London

February 1, I, No. 4666, pp. 297-364

12 *Malingering in Accident and Disease. J. Collie.
13 *Treatment of Syphilis with Salvarsan: First 1,000 Patients Treated at Royal Naval Hospital at Plymouth. L. Kilroy.
14 Case of Suppurative Post-Typhoid Osteitis Thirteen Years After Attack of Enteric Fever. A. H. Tubby and J. A. B. Hicks.
15 Progeria and Ateleiosis. A. Keith.
16 New Growth and Inefficient Immunity. H. G. Grünbaum and A. S. F. Grünbaum.
17 Case of Infection in Man by Bacterium Prodigiosum. H. M. M. Woodward and K. B. Clarke.
18 Case of Old-Standing Dislocation of Hip-Joint Treated by Open Operation. A. Gibson.
19 Treatment of Recent Injury by Mobilization and Massage. J. B. Mennell.

12. **Malingering in Accident and Disease.**—The principal means by which Collie says malingering may be checked are: (1) A system of organized lay inspection; (2) repeated, periodical, independent medical supervision; (3) complete independence of the medical attendant; and (4) some system of registration which shall make apparent what is the full amount of sick-pay and other benefit, if any, that the patient is in receipt of.

13. **Salvarsan in Syphilis.**—At the Royal Naval Hospital, Plymouth, England, 2,147 injections were given to 1,000

patients with thirteen invalidings, no deaths and twenty-two clinical relapses readmitted to this hospital, two clinical relapses admitted to other naval hospitals and two occurring in ships, leaving out of consideration the salvarsan given after relapses. Of seventeen patients (five of whom had previously received salvarsan elsewhere) who received one dose of salvarsan there, no case has reached this hospital as a clinical relapse. Of 901 patients receiving two injections there, twenty-one have reached the hospital as relapses, two are known to have occurred in ships and two have been treated in other naval hospitals. Of sixty-eight patients receiving three injections, one case reached the hospital as a clinical relapse. One patient with relapse after two doses given elsewhere was treated by two further doses. Mercurial treatment is carried out in this hospital during the whole time the patient is an inmate. The only days on which mercury is not given are those on which the patients receive their injections of salvarsan. No salvarsan has been given to patients with (1) heart disease; (2) albuminuria; (3) diabetes; (4) advanced tabes; and (5) general paralysis of the insane. At least two doses are given to all patients unless some contra-indication presents itself. A third and more rarely a fourth dose is given to resistant cases. No deaths have occurred. So far about 50 per cent. of the patients who have been examined after having had salvarsan have given a negative Wassermann when examined three months later. The others are about equally divided into those whose Wassermann is not improving or getting worse. It is too early for precise details.

Practitioner, London

February, XC, No. 2, pp. 381-512

20 *Septic Infection of Joints. A. E. Barker.
21 Rheumatism in Childhood. F. J. Poynton.
22 *Significance of Some Common Symptoms in Childhood. C. V. Kebbell.
23 *Bow-Legs in Small Children. P. B. Roth.
24 Recent Literature on Children's Diseases. H. Thursfield.
25 Intestinal Stasis. A. C. Jordan.
26 Treatment of Gangrenous Hernia by Combined Anastomosis and Fistula Operation. E. Gillespie.
27 Recent Literature on Roentgen Rays and Radium. N. S. Finzi.
28 Literature on Nervous and Mental Diseases. H. C. Thomson.
29 Combined Treatment of Alcohol Inebriety. J. W. A. Cooper.
30 Two Curious Cases of Coin in Alimentary Canal. E. R. Wheeler.
31 Recent Literature on Clinical Pathology. W. D. Emery.,

20. **Septic Infection of Joints.**—Among the many non-traumatic ways in which joints may be infected through the blood-stream, Barker says, less attention has been given to the possible entrance of bacteria from the gums than the subject deserves. Every one is familiar with synovitis following gonorrhea or other forms of septic catarrh of the urethra and vagina, and with the arthritis of pyemia, and of the acute fevers, such as scarlatina, measles, typhoid and influenza. Pneumococcal infections of joints are also recognized, but are not usually definitely traceable to an attack of pneumonia. But in many instances it may be difficult to trace the joint trouble to any of these latter and it is well to examine closely into the state of the teeth and gums in every attack of synovial inflammation of non-traumatic origin. And even when acute synovitis follows on blows, strains and other forms of non-penetrating injury, it is equally important to include in the examination, for possible portals of infection, the teeth, mouth and pharynx, for the injury may be only the factor determining where a previous infection shall manifest itself. Barker reports four cases. They illustrate the perfect type of so-called hemogenic infection. The organisms, introduced into the system through a very common septic lesion (pyorrhea alveolaris), are carried into the blood-stream and excite in the lining membrane of a joint-cavity an inflammation producing, in the first place, hypersecretion and, eventually, suppuration.

22. **Common Symptoms in Childhood.**—Kebbell emphasizes the importance of a thorough examination in all cases of illness in childhood, and the assistance to be gained from a careful inspection of the child, which, if not actually suggesting the disease, will often give warning of the severity of the case, or, at any rate, that the child is, in doubtful cases, really ill; thus leading the examiner to take a cautious view of the matter rather than merely dismissing it as some trivial complaint. It is surprising, says Kebbell, how frequently some disease, such as heart or lung affection, is discovered, which the parents have never suspected.

23. **Bow-Legs in Small Children.**—In the mild cases, Roth points out that all that is required is the application of suitable splints, which must be worn during the day while the child is walking about. The ordinary padded wooden hospital splint, 2 inches broad and 6, 8 or 10 inches long, is admirable. It should extend from the bottom of the shoe-heel to the line of the knee-joint and is applied to the inside of the leg and ankle over the sock and shoe, and bandaged on firmly. The bandage should come well down on the outside and obtain a purchase from below the external malleolus. The splint is applied in the morning and removed at night by the mother. The padding at the lower end of the splint will soon wear out; when it does, the mother must recover it. The mother is also given extra sets of bandages, to be applied when the others are dirty, and is impressed with the importance of never letting her child walk without the splints. The patient is seen every fortnight at first, and later every month. The splints are worn for from three to twelve months, being discarded as soon as the legs are quite straight. Roth has no experience of the condition recurring. During the whole period of treatment, an antirachitic diet is ordered, consisting chiefly of milk, eggs, bread and dripping, bacon-fat, gravy and potatoes, green vegetables and fruit; cod-liver oil and malt if the child can take it. The severe cases are treated by either osteotomy of the tibia and fracture of the fibula, or by the so-called "manual osteoclasis" of both bones. After a trial of both methods, Roth has entirely discarded the former in favor of the latter. In "manual osteoclasis" the affected limb is grasped by both hands, and broken by leverage over a suitable fulcrum.

Sei-I-Kwai Medical Journal, Tokyo

January 10, XXXII, No. 1, pp. 1-8

32 Vaccine Treatment of Erysipelas; Report of Sixteen Cases. Y. Takaki.

Bulletin de l'Académie de Médecine, Paris

January 14, LXXVII, No. 2, pp. 19-26

33 Thyroid Treatment Effectual in Five of Seven Cases of Retraction of the Palmar Aponeurosis. M. Gilbert.

January 21, No. 3, pp. 27-41

34 Frequency of Epigastric Hernia in Connection with Gastric Ulcer and Cancer. E. Kirmisson.
35 Dosage of Bromids in Water. (Nouvelle méthode pour le dosage rapide des bromures dans les eaux naturelles.) G. Denigès and L. Chelle.

Journal de Chirurgie, Paris

January, X, No. 1, pp. 1-128

36 Cicatricial Stricture of the Esophagus. (Traitement des rétrécissements cicatriciels de l'oesophage.) L. Sencert.

Journal de Médecine de Bordeaux

January 26, XLIII, No. 4, pp. 51-64

37 *Nerve Blocking for Painful Laryngitis. (Les interventions à distance sur les nerfs sensitifs du larynx dans les laryngites douloureuses.) G. Liébault.

37. **Treatment of Painful Laryngitis.**—Liébault discusses the anatomy of the nerves in the region and the best means of keeping the pain under control. At the Bordeaux clinic he frequently uses an anesthetic solution which has proved its superiority. It is a combination of 0.2 gm. of cocain; 0.05 gm. morphin; 5 gm. antipyrin; 0.5 gm. quinin sulphate; 0.1 gm. sodium chlorid, and 80 per cent. alcohol q. s. to 50 gm. On each side 0.01 gm. is injected. The injections can be repeated at need. When this fails the superior laryngeal nerve may be resected. This relieves the patients even with inoperable cancer or advanced laryngeal tuberculosis. The prospects are better naturally when the patients are still capable of repair by primary intention. In some cases even this will not remove the pain, probably from participation of other nerve

fibers, but Liébault warns that the recurrent nerve had better be left untouched on account of its motor branches and the danger of motor paralysis. He gives several illustrations to show the preferable technic for access to the superior laryngeal nerve.

Journal d'Urologie, Paris

January, III, No. 1, pp. 1-128

38 *Diffuse Suppuration Around the Bladder. (Phlegmon diffus péri-vésical d'origine prostatique.) F. Legueu.
39 *Hydronephrosis Not Diagnosed for Seventeen Years. (Hydronéphrose de 30 liters diagnostiquée tardivement par l'examen physico-chimique du liquide.) Mosny, Javal and Dumont.
40 Fissure of the Bladder. (Fissure vésicale inférieure. Inversion vésicale; etranglement.) G. Houzel.
41 *Enuresis of Digestive Origin. (Incontinence nocturne d'urine d'origine gastro-hépatique.) A. Collin.
42 Fatal Gas Embolism from Injection of Air into the Bladder. Nicolich.
43 Fatal Gas Embolism During Prostatectomy. G. Marion.
44 Hemorrhage in a Movable Kidney. Caspari.
45 Catheterization of the Ureters Under Direct Visual Inspection. (Du cathétérisme urétéral par cystoscope à vision directe.) J. Ferron.

38. **Diffuse Suppuration Around the Bladder.**—Legueu reports a case which seemed to be merely ordinary gangrenous periurethritis but necropsy revealed a stricture in the urethra, suppuration in the prostate which had destroyed nearly all of it except around the urethra, and a diffuse perivesical phlegmon, the entire bladder being invaded with a zone or serous or seropurulent infiltration in the subperitoneal cellular tissue. It is the first case he has encountered although he has long been on the lookout for something of the kind. After the operation on the periurethritis the local process started to heal but the general condition grew worse, suggesting trouble above. If the condition had been differentiated in time, Legueu would have attacked the prostatic lesion, draining it both through the perineum and above the pubis, although the prospects for a cure, he remarks, are not very bright with these phlegmons which fasten gangrene on everything they touch.

39. **Hydronephrosis.**—The kidney contained 30 liters of fluid at necropsy. The patient was a woman of 25 and the first signs of trouble had been noted at the age of 8. For years it was ascribed to tuberculous peritonitis and the hydronephrosis assumed to be ascites until finally chemical examination of the puncture fluid excluded ascites as there was only 2.2 gm. of albumin; experience has shown that with ascitic fluid the proportion of albumin is never below 3 gm. per liter. The finding of only 5.3 gm. of chlorids excluded an ovarian cyst; 8 gm. is the usual figure here. There was also 3.87 gm. of urea, and this finally cleared up the diagnosis in connection with catheterization of the ureters. The urine voided was apparently normal in composition and amount but it came exclusively from the sound kidney.

41. **Incontinence of Urine of Digestive Origin.**—In cases of this kind there is always a period of physiologic conditions before the onset of the enuresis, after the child has grown out of infancy. The enuresis is also intermittent and irregular, alternating with normal periods. Another characteristic is the unusually sound sleep, and there is generally some mild inherited nervous taint. The children are unusually large eaters; the mother prides herself on the child's fine appetite but there are always slight digestive disturbances. Treatment is of the simplest, merely reduction of the amount of food, and not letting the children have any liquor or any foods that ferment readily. Mild laxatives are useful and also, possibly, light massage of the abdomen and hot-water compresses. The cure is soon complete in children in institutions but the petted children of the rich are hard to break of the enuresis habit when it is of this stomach-liver type.

Lyon Médical, Lyons

December 29, XLIV, No. 52, pp. 1117-1184

46 *Thomsen's Disease. (Le syndrome électrique myotonique.) J. Cluzet, J. Froment and Mazet.

January 5, XLV, No. 1, pp. 1-48

47 *Modes of Transmision of Typhoid Fever. H. Rondet.

January 12, No. 2, pp. 49-88

48 *Treatment of Diphtheria with Hot Air. (Des inhalations d'air chaud dans le traitement de la diphtérie.) R. Rendu.

46. **Thomsen's Disease.**—The case of myotonia congenita here described, in addition to the classical symptoms, presented some unusual features. There was no family history though it is generally a hereditary disease. The muscles were not hypertrophied. The persistent tonic muscular contraction was obtained by stimulating the nerve trunks as well as by direct stimulation of the muscle. Moreover the patient, a girl of 18, had goiter of long standing which suggested intoxication from hyperthyroidism as a possible cause for the myotonic symptoms.

47. **Modes of Transmission of Typhoid Fever.**—Rondet thinks that the principal part in the transmission of typhoid is played by human bacillus-carriers infected from their own excretions, and that therefore one of the most efficient prophylactic measures is instruction of the public, particularly school children, in the importance of absolute personal cleanliness.

48. **Treatment of Diphtheria with Hot Air.**—Rendu treated a series of sixty-six diphtheria patients, half of them with antitoxin, the others with hot air passed directly into the mouth through a tube connected with an ordinary electric dryer, such as is used by hairdressers. He got practically the same results in the two series of cases, the same percentage of deaths and paralysis, and no cardiac complications in either. The temperature curves were about the same and the false membrane disappeared in about the same time. The hot air was used alone merely to test its efficacy as compared with diphtheria antitoxin. Ordinarily they should be used in conjunction. The effect of the hot air is bactericidal. (His earlier report on the subject was summarized with editorial comment in The Journal, Aug. 3, 1912, p. 376.)

Presse Médicale, Paris

January 18, XXI, No. 6, pp. 49-60

49 *Treatment of Fracture of Upper Third of the Ulna. J. Abadie.
50 Relations Between Sero-Anaphylaxis and Special Forms of Tuberculosis. (Rapports entre les accidents séro-anaphylactiques et les formes de la tuberculose—Fibro-tuberculose, rhumatisme noueux.) P. Courmont.

January 22, No. 7, pp. 61-68

51 Subcutaneous Suture of Fracture of the Patella and Olecranon. M. Chaput.
52 Retention of Water, Salt or Nitrogen in Nephritis. (Hydrémie, Azotémie, Chlorurémie dans les néphrites.) A. Martinet.

49. **Fracture of Upper Third of the Ulna.**—Abadie refers in particular to the cases of fracture with dislocation of the head of the radius, and describes his successful treatment of two patients by reducing and suturing the ulna, holding the stumps in apposition with broad prongs, and cutting into the tissues to permit and control exact reduction of the head of the radius. The whole is done at one time and at the earliest possible moment. He has not been able to find any records of a similar technic in the literature, but his success in the cases reported shows the advantages of this procedure. It often happens that the stumps have jagged edges, which interfere with reduction, but reduction must be done before attempting to reduce the head of the radius. It should be opened up to be sure that all is in good order and no intervening scraps of tissue are left to compromise normal healing. The arm must be immobilized afterward, flexed at an acute angle, and *x*-ray pictures taken from the front and side. If the ulna has healed in a defective position, osteotomy may be necessary. Only when all else fails is it proper to resect the head of the radius.

Revue de Chirurgie, Paris

January, XXXIII, No. 1, pp. 1-136

53 *Formaldehyd Fumes in Sterilization of Surgical Materials (La stérilisation par les vapeurs de formol dans la pratique chirurgicale.) G. Gross and M. Barthélemy.
54 Phlebitis During Course of Uterine Fibroma. J. Duvergey.
55 Anatomic and Experimental Study of Improved Method for Correction of Exstrophy of the Bladder. (Sur la typhlo-urétérostomie après exclusion du caecum et appendicostomie dans le traitement de l'exstrophie vésicale.) D. Taddei
56 *Primary Melanotic Tumors of the Rectum. A. Chalier and P. Bonnet. To be continued.

53. Improved Technic for Formaldehyd Sterilization.—Gross and Barthélemy call attention to the technic which they have been using with eminent satisfaction for some years and which seems to be free from the drawbacks of other methods. Instead of using a solution, they use the white powder which forms when the ordinary commercial solutions of formaldehyd are evaporated and become polymerized. It is known as trioxymethylene or paraformaldehyd. Exposed to the air the powder becomes depolymerized, giving off little by little the fumes of formaldehyd. A tray containing a solution of formaldehyd will give off formaldehyd fumes while it evaporates, that is, during two or three days. A tray containing an equal volume of the powder will keep giving off formaldehyd fumes for six weeks. The fumes will also be dry; this is a great advantage for sterilization of instruments, gloves, etc. Their experience has been extremely favorable with the powder. They spread it on trays alternating with trays containing the articles to be sterilized and close the receptacle air-tight. They have three sets of articles and three receptacles in use. They leave them shut up for forty-eight hours, and thus have one always ready to use. Everything is thoroughly sterilized in twenty-four hours, but the additional day confers added security. When the instruments have to be used every day, the sterilization can be hastened by heating the receptacle. The method is particularly fine for rubber gloves; they can be mended like a bicycle tire and the dry sterilization does not weaken the patch. The gloves being dry, any tear in them is recognized at once by the feeling of moisture on the hand. By wiping off any drops of blood that get on the gloves they keep dry throughout the operation and thus keep impregnated with the formaldehyd. The same method is superior also for sterilization of drains, ligatures, dressings, etc. They have performed six hundred operations with this technic for sterilization of the surgical materials, and two thousand laparotomies or herniotomies with gloves sterilized by this technic demonstrate conclusively, they say, the excellence of this simple method.

56. Melanoma of the Rectum.—Chalier and Bonnet discuss in this monograph the origin, evolution, prognosis and treatment of primary pigmented tumors in the rectum, with a detailed description of a case personally observed and summaries of sixty-four cases from the literature in this second instalment of the article. They state that this affection in horses was described toward the close of the eighteenth century, the black tumors being hereditary in these animals.

Semaine Médicale, Paris

January 22, XXXIII, No. 4, pp. 37-48

57 *Disturbances in the Circulation from Sudden Contraction of the Vagus. (Troubles circulatoires aigus par hypertonie brusque du nerf vague.) J. Schwartzmann.

January 29, No. 5, pp. 49-60

58 *Protracted Fevers of Obscure Origin. L. Cheinisse.

57. Acute Disturbances from Sudden Hypertonicity of the Vagus Nerve.—Schwartzmann reports four cases in which sudden acute weakness, almost syncopal, was accompanied by pallor, sweating, drop in the blood-pressure and slowing of the heart beat from 78 to 54; 90 to 48; 96 to 50, and 80 to 60, but there was no dissociation between auricle and ventricle. The attack lasted only a few instants and everything indicated that the cause was a sudden hypertonicity of the vagus. The attack in two cases followed injection of salvarsan or neosalvarsan. The other patients were having the cuff applied to measure the blood-pressure, and they complained of sudden intense pain. The bradycardia in these cases may have been a reflex phenomenon. Schwartzmann defines the trouble as a vagotonic disturbance of the circulation in persons entirely free before and since of any tendency to bradycardia. The two first patients were reclining at the time, the others seated.

58. Long Continued Fevers of Obscure Origin.—Cheinisse thinks that these fevers can generally be traced to their source by excluding in turn the usual factors. He warns that the higher temperature in the rectum after exertion is by no means always a sign of tuberculosis, especially in children. It is liable to be a purely local rise in temperature in the muscles from the exercise of the legs. Avellis found that the axilla temperature never paralleled the fluctuations in the rectum temperature in these cases. The instability of the temperature in children adds another element to the problem. In adults the long continued fever may be due to unsuspected malaria or liver abscess; it is important therefore to inquire as to a stay in malarial and tropical countries. In a case described at length, the patient had been treated for months on the basis of tuberculosis, but was soon cured under quinin. This error is particularly liable to occur in regions long free from malaria. Another source of error is the negative finding of tests for typhoid. In one such case there was no agglutination until the thirty-seventh day of a mild typhoid. In other cases the tests may be positive in an old bacillus carrier, and the typhoid infection may have nothing to do with the long continued fever years later. When the fever is of gastro-intestinal origin it may be the result of intolerance for some special article of food, usually carbohydrates. The dragging fevers of digestive origin generally have a more erratic curve and the weight fluctuates more than in tuberculosis. In the latter also there is a tendency to permanent tachycardia, which is not a characteristic of the digestive fevers. Chronic inflammation of the tonsils or adenoids or of deep lymph-nodes is another source of long continued fever. It may also follow an acute infection in an adult. In one such post-infectious case, after a relatively mild attack of influenza, the man had subfebrile temperature every evening for many weeks although otherwise well. Syphilis may also be responsible; Osler has reported a case of intermittent fever twenty-nine years after infection with syphilis. It kept up for months but subsided at once under specific treatment. The urine should be examined with the microscope and bacteriologically in obscure cases; one patient's urine was found a pure emulsion of streptococci and another's swarming with colon bacilli, although in neither case had there been any symptoms to call attention to the urinary apparatus.

Archiv für klinische Chirurgie, Berlin

C, No. 2, pp. 293-596. Last indexed February 8, p. 482

59 Echinococcus Disease. (214 Echinokokkenoperationen. Beitrag zur Pathologie und Therapie der Echinokokkenkrankheit.) G. Magnusson (Iceland).

60 Inflammation Back of the Peritoneum. (Klinische Beiträge zu den diffusen entzündlichen Erkrankungen des Retroperitoneums und ihre Stellung zur Peritonitis.) O. Sprengel.

61 Fracture of Navicular Bone in Children. (Das Alb. Köhler'sche Knochenbild des Os naviculare pedis bei Kindern—eine Fractur.) E. O. P. Schultze.

62 *Schlatter's Disease of the Tibia. (Zur Schlatter'schen Krankheit. Symptom einer Systemerkrankung.) E. O. P. Schultze.

63 Pathogenesis of Congenital Atresia of Intestines and Esophagus. H. Forssner and E. W. Kreuter.

64 *Technic for Effectual and Harmless Blocking of the Nerves in the Leg. (Die Anästhesirung der unteren Extremität mittels Injection auf die grossen Nervenstämme.) W. Keppler.

65 Experimental Research on the Importance of the Veins with Arteriovenous Aneurysm. E. Ney.

66 Embryonal Predisposition to Tumor in the Parotid Gland. (Ein embryonaler Seitengang des Ductus parotideus und seine Beziehungen zu einigen Tumoren der Parotis.) E. Weishaupt.

67 Angioma of Peripheral Nervous System. S. Sato.

68 Advantages of Button in Gastro-Enterostomy. (Zur Anwendung des Murphyknopfes bei der Gastroenterostomia retrocolica posterior; 81 Fälle.) F. Fesenmeyer.

62. Schlatter's Disease.—The avulsion of the tongue-shaped projection of the tubercle of the tibia, to which Schlatter first called attention, is being encountered with greater frequency as the Roentgen rays are coming into more common use. Schultze reports from the university clinic at Berlin, in charge of Bier, eight typical cases, all in boys between 13 and 14, and in six of the cases the affection was bilateral. The little patients were all growing rapidly and none seemed to be very robust; three had enlargement of lymph-nodes at various points and nearly all had had rachitis or scrofula in early childhood. There was no difference in size between the tibia on each side and no signs of atrophy or of inherited syphilis; the Wassermann was constantly negative in all. There was no history of trauma in any case and only suspicion of it in two, except that two first noticed while they were running that there was something wrong in the leg. It did not prevent their continuing playing; one boy noticed that his leg was swollen a little at the point of the lesion, but there was no sign of a bruise then or later. Schultze thinks that all the evidence is in favor of the assumption that the bone is diseased, and that the trouble is a spontaneous fracture occurring in a predisposed bone. In only three cases could by any possibility the force have been strong enough to tear off a sound tubercle. The mechanism seems to be about the same as for the development of coxa vara. Another argument in favor of this view is the protracted healing. An ordinary fracture in sound bone heals in three weeks in a healthy boy, but in this Schlatter affection four months may be required before healing is complete, or even longer. The trouble therefore is essentially constitutional rather than local. Treatment therefore should aim to build up the general health. Phosphorus and arsenic internally seemed to hasten healing in his cases, and painting the region with tincture of iodin seemed to stimulate repair. Immobilizing appliances are not necessary; the same results can be realized with an ordinary bandage.

64. **Blocking the Nerves in the Leg.**—Keppler reports from the same clinic the excellent results obtained with injection of an anesthetic to block each of the principal nerves in the thigh or the two in the leg below the knee. His illustrations show the exact technic. The method has proved its usefulness for major operations, and it has been found absolutely reliable when the technic was minutely carried out. The amount of *the anesthetic required is comparatively small.* It abolishes the pain during the application of the constricting bandage to expel the blood, while the anesthesia induced is of long duration, persisting for hours after the operation is completed. Another advantage, especially for orthopedic operations, is the transient motor paralysis which it induces. Twenty cases are reported in detail to show the different types of operations performed with this technic and the excellent outcome. In no instance was the operator surprised by the slightest by-effect or after-effect.

Berliner klinische Wochenschrift

January 20, L, No. 3, pp. 97-144

69 *Fifty Years of Electrotherapy. (Fortschritte in der Elektrotherapie.) H. L. Jones.
70 Technic for Resection of Goiter. (Beidseitige Resektion oder einseitige Exstirpation des Kropfes?) A. Tietze.
71 *Restoration of Nose by Pedunculated Flap of Skin from Over the Sternum. (Ein dritter Weg zur totalen Rhinoplastik.) E. Holländer.
72 Plastic Operations on the Breast. (Ueber Mammaplastik.) M. Weichert.
73 *Operative Treatment of Cavity in Lung. (Zur Cavernenchirurgie.) G. Baer.
74 *The Blood-Findings in Tuberculosis. (Blutbefunde bei Tuberkulose.) L. Rabinowitsch.
75 Nystagmus in Febrile Diseases. E. v. Czyhlarz.
76 Presence of Cholesterin, Cholesterin Esters and Lecithin in the Blood-Serum. (Zur Lipoidchemie des Blutes.) M. Bürger and Beumer.
77 *Prophylaxis with Attenuated Tubercle Bacilli. (Schutzimpfung mit abgeschwächten Tuberkelbacillen.) M. Rabinowitsch.

69. **Electrotherapy.**—*Jones states that the recent fuller* appreciation of the chemical action of the electric current, the *ion* theory, and the appreciation of the heating properties of the current have opened the door to great advances in electrotherapy in the immediate future. The knowledge that the ammonium *ions* are less irritating than sodium *ions* has rendered it possible to apply stronger currents and for a longer time. Bergonié even goes so far as to apply a 25 milliampere current along the paralyzed limb after poliomyelitis for an hour twice a day; the child feels so little disturbance from it that it plays and sleeps during the sitting, and never shows signs of fatigue, while the ultimate outcome is extremely good. Jones uses an electrode covered with two or three layers of thick felt and can send through this without irritating the skin a current of 50 milliamperes for twelve or twenty minutes a sitting. The high frequency current has such short waves that the action of *ions* is practically eliminated; consequently very powerful currents can be used. In diagnosis it is now possible to distinguish a great number of transitional stages between the normal reaction of the muscle and the reaction of degeneration.

71. **Plastic Operation on the Nose.**—Holländer takes the pedunculated flap from the chest over the sternum but otherwise follows the technic of the Italian method, immobilizing the head bent forward but without the immobilization of the arm. The skin of the chest is better fitted for restoration of the nose than that of the arm, he says, and there is less danger of necrosis as the flap is not twisted. He gives four illustrations to show the application of the method and the results in one clinical case.

73. **Operative Treatment of Cavity in the Lung.**—Baer describes a method which he says may lead to the healing of even large cavities without any danger for the patient, without a mutilating operation, and in a comparatively brief time. He aims to separate the pleura and lung from the wall of the chest mobilizing and causing the collapse of the cavity. The space left can be filled with nitrogen or paraffin. Tuffier utilized scraps of lipoma for the purpose, and Baemeister has injected paraffin into the pleura, instead of nitrogen, in experiments with artificial pneumothorax on dogs. Baer reports the successful application of the method to a man of 23 with a large cavity in one lung rebellious to the usual measures and to the Wilms' operation (operative reduction of the size of the chest wall on that side). As a last resort the second rib was resected for 6 cm., under local anesthesia; the costal pleura was readily detached and the recess thus formed was tamponed with gauze. The cavity itself was not opened. A week later the tampon was removed, adhesions had formed *and a point on the anterior wall of the cavity tore.* Consequently the cavity was then opened up and evacuated and it gradually healed. The thorax wall sank in, aided by the preceding Wilms' operation. The patient recuperated amazingly and tubercle bacilli could no longer be found in the sputum. It is now proposed to pack the cavity and the outer hole at longer and longer intervals, supplemented by heliotherapy and radiotherapy of the cavity. When it is quite healed Baer proposes to fill the cavity with the plastic material. The detaching of the cavity brought about a profound change in it as was evidenced by the disappearance of the bacilli from the sputum. The collapsing inward of the walls of the cavity modifies conditions and starts the process to healing even if it is not evacuated. Even partial mobilization of the *anterior wall* of the cavity may answer the purpose, possibly supplemented later by evacuation of the cavity or extrapleural compression by introducing scraps of paraffin, solid at room temperature but which soften up at body temperature and become fluid at 42 C. There can be no danger of embolism with these solid scraps of paraffin; by the time the paraffin has softened, the blood vessels in the region are no longer open. By this means the entire procedure can be completed at one sitting and the wound definitely sutured. If the space is not all filled up, nitrogen or more paraffin might be injected later.

74. **Tubercle Bacilli in the Blood.**—Rabinowitsch reports research which apparently confirms the assumptions of Virchow and Orth, published twenty-two years ago, to the effect that an injection of tuberculin is liable to rout out the tubercle bacilli from their nests and drive them into the blood. In the numerous accounts that have been published in the last few months of the finding of the bacilli in the blood, it is not stated whether the patients had been taking tuberculin or not. Baemeister has also recently stated that inoculation of animals with the blood from fifteen tuberculous patients gave constantly negative results, but after four of the patients had been given a diagnostic injection of tuberculin, with a distinct local reaction, then the inoculation of animals all gave positive results. He added that there can be no doubt that virulent bacilli had been driven out of the diseased organ into the circulating blood by the injection of tuberculin, and remarks that *this is a pretty serious thing.*

77. **Prophylactic Inoculation Against Tuberculosis with Attenuated Tubercle Bacilli.**—Rabinowitsch announced *in* 1906 that he had succeeded in cultivating strains of tubercle bacilli which were avirulent, and t[illegible] als i[illegible]ated with th[illegible] avirulent strains proved [illegible] to [illegible] illi wit[illegible] which they were inoculat[illegible] [illegible]

means to carry on his research and consequently dropped it after this announcement. He here describes the means with which he was able to enhance or reduce the virulence of the bacilli at will, and affirms anew that the virulence of tubercle bacilli is by no means a constant property but can be varied at will. He used for this formaldehyd, adding a minute quantity to the culture or letting the fumes act on the culture. After thus being exposed to formaldehyd, the cultures were transferred to fresh serum media. One strain derived from the blood of a consumptive and highly virulent for both rabbits and guinea-pigs became completely avirulent under this treatment. Two guinea-pigs inoculated subcutaneously with 0.002 gm. of the culture showed no signs of infection when killed six weeks later, while others inoculated in the same way and then, after two months, inoculated with the same amount of a highly virulent culture, human and bovine, showed no signs of infection when killed six weeks later. The controls developed tuberculosis in a very severe form.

Deutsches Archiv für klinische Medizin, Leipsic

CIX, Nos. 3-4, pp. 209-416. Last indexed February 15

78 Elimination of Nitrogenous Waste in Nephritis, and Intravenous Administration of Diuretics. (Ausscheidung der stickstoffhaltigen Stoffwechselprodukte bei Nephritis und intravenöse Anwendung der Diuretica.) P. Erdelyi.
79 Estimation of Acidosis in Diabetes. (Acidosebestimmungen bei Diabetes mellitus. Klinische Untersuchungen über die Kohlensäurespannung der Alveolarluft.) H. Straub.
80 *Alcohol Content of the Blood. (Der Alkoholgehalt des Blutes unter verschiedenen Bedingungen.) W. Schweisheimer.
81 Metastatic Abscess in Brain After Suppuration of Bronchial Lymph-Node. (Zur Lehre der Hirnabscesse.) O. Hirschberg.
82 Elimination of Purin Bases in Health and Disease. (Ueber Purinbasenausscheidung bei Gesunden und Kranken.) J. Hefter.
83 Tryptophan-Splitting Ferment in Pathologic Effusions. (Vorkommen von peptolytischen Fermenten in Exsudaten und dessen diagnostische Bedeutung.) R. Lenk and L. Pollak.
84 Technic for Blood-Count. (Ueber Anwendung getrennter Pipetten und Mischgefässe bei der klinischen Blutzählung.) V. Ellermann.
85 The Circulation in the Lungs as Influenced by Differential Pressure. (Zur Blutzirkulation in der Lunge bei geschlossenem und offenem Thorax und deren Beeinflussung durch Ueber- und Unterdruck.) F. v. Rohden.
86 Anemia from Hemorrhage. (Ueber Blutungsanämie.) L. S. Milne (New York)

80. **The Alcohol Content of the Blood.**—Schweisheimer carried out a series of experiments on total abstainers, moderate drinkers and drunkards. He found an extremely small percentage of alcohol in normal blood, .029 to .036 per cent. Alcohol passes directly into the blood as such, and in the blood of a drunken man may reach as high as 2.26 per cent On taking a given amount, a higher percentage is found in the blood of a non-drinker than of a drinker. In the non-drinker the highest alcohol content is reached after one and a half to two hours; it remains at this level for a considerable time (five hours, as contrasted with two hours in drinkers) and falls slowly. In drinkers it rises and falls quickly, the entire time required for elimination being about half as long as in non-drinkers. The psychic signs of drunkenness run parallel with the concentration of the alcohol in the blood. The hypersensitiveness of epileptics to alcohol is probably due to the fact that they are unable to oxidize the alcohol and thus an abnormally high percentage of it passes into the blood. This determination of the alcohol content of the blood may be used clinically to differentiate between unconsciousness from alcohol and other causes, such as uremia, opium, trauma, etc. Tables and curves are given showing in detail the results of the experiments.

Deutsche medizinische Wochenschrift, Berlin

January 23, XXXIX, No. 4, pp. 145-200

87 Treatment of Mycoses. (Behandlung der Dermatomykosen.) V. Klingmüller.
88 Unfavorable Outcome of Tests of Tebesapin. (Experimentelle Untersuchungen mit dem Zeunerschen Tuberkulosepräparat "Tebesapin.") B. Möllers and G. Wolff.
89 Therapeutic Worthlessness of Mesbé in Tuberculosis. (Erfahrungen mit Mesbé bei Lungen- und Kehlkopftuberkulose.) O. Roepke.
90 Congenital Familial Jaundice. E. Maliwa.
91 *Brachial-Plexus Neuritis and Polyneuritis Following Pneumonia. (Metapneumonische Brachialplexusneuritis und -polyneuritis.) Biermann.
92 Causes of Putrid Sputum. T. Sasaki and I. Otsuka.
93 *Extra Danger from Operative Hemorrhage with Narrow Aorta System. E. Melchior.
94 Improved Technic for Estimating the Pupil Reactions in Differential Diagnosis. (Ueber den Schwellenwert der Pupillenreaktion und die Ausdehnung des pupillomotorische Bezirkes der Retina. Untersuchungen auf Grund einer neuen Methodik.) E. Schlesinger.
95 Signs of Intoxication After Injections of Mercurial Proprietary. (Toxische Erscheinungen nach wiederholten subkutanen Embarininjektionen.) R. Fried.
96 Surgery of the Heart. (Zur Herzchirurgie.) H. Lucas.

91. **Neuritis Following Pneumonia.**—Biermann states that brachial neuritis following pneumonia has been reported only comparatively recently, while large numbers of cases have been published consecutive to typhoid, small-pox, scarlet fever, measles, acute polyarthritis, tuberculosis, erysipelas, mumps, epidemic meningitis, malaria and influenza. He has found only six on record in which the neuritis followed pneumonia, but adds three typical cases of this metapneumonic brachial plexus neuritis, all encountered in the last three years. In the first a previously healthy young woman, ten days after typical pneumonia, had pains in both arms and she was unable to use them; for three weeks she had to be fed. Five months after the onset of the neuritis there was still paresis and atrophy from the trouble in the brachial plexus but by the end of two years all traces of the disturbance had disappeared, confirming its neuritic character. The second patient was a farmer of 22 with a third attack of pneumonia in ten years. About two weeks after the last attack he had sudden violent pains in both arms with extensive paralysis of the arms the next day, involving also part of the shoulder muscles. The paralysis did not grow any worse but the muscle groups became more or less atrophied; they gradually recuperated under electric and bath treatment. In all three cases there was a slight difference in the size of the pupils, with normal light and accommodation reactions, suggesting possibly involvement of the cervical roots in the neuritic process. In both cases the brachial plexus was affected alone. In one case there were vasomotor and trophic disturbances, patches of redness and desquamation of the palms, such as have been observed by others with polyneuritis. In the third case the paralysis developed very gradually after recovery from the pneumonia, and it was restricted to the legs, sensory disturbances predominating.

93. **Danger from Operative Loss of Blood with Hypoplasia of the Aorta System.**—Melchior reports two cases of death under signs of the patients' having bled to death although less than three-fourths of a liter of blood had been lost. Necropsy revealed an abnormally narrow aorta system. Virchow called attention years ago to the frequent coincidence of endocarditis and hypoplasia of the aorta. The trouble is a misproportion between the capacity of the arterial system and the size of the rest of the body, entailing low resisting power. The symptoms were increasing pallor, motor restlessness with relatively good pulse, but no signs of postoperative shock. It is probable, Melchior thinks, that cases of "thymus death" may come under this heading. It is certainly a striking coincidence that in so many instances of the latter on record there had been just preceding hemorrhage. A misproportion between the amount of blood lost and the severity of the effect should suggest this constitutional oligemia from an unduly narrow aorta system. The hemorrhage in his cases was purely parenchymatous. Discovery of a morbidly narrow aortic system should warn against any operation except as a last resort. There do not seem to be any means to determine the presence of the anomaly, but it should be suspected when a physically well-developed young person has rebellious anemia and gets easily exhausted after slight effort. It might be possible to detect it by palpation of peripheral arteries.

Deutsche Zeitschrift für Chirurgie, Leipsic

December, CXX, Nos. 1-2, pp. 1-186

97 Fracture of the Odontoid Process of the Axis. (Frakturen des Zahnfortsatzes des Epistropheus.) E. Fritzsche.
98 Pedunculated Skin Flaps from the Chest to Cover Defects in the Fingers. (Uebertragung gestielter Hautlappen aus der Haut des vorderen Brustkorbs auf Fingerdefekte.) R. Sievers.

99 Hemorrhages in Stasis Cyanosis. (Stauungsblutungen infolge traumatischer Rumpfkompression.) E. Lange.
100 Outcome of Double Fracture of the Ankle. (Endresultat bei doppelten Knöchelbrüchen.) G. Molineus.

January, Nos. 3-4, pp. 187-394

101 Orchitis Ascribed to Strain. (Die angebliche Orchitis par effort vor der Pathologie, der Klinik und dem Unfallgesetz.) A. de Cortes.
102 Tissues Living Outside the Organism. (Ueber Gewebskulturen in vitro unter bes. Berücksichtigung der Gewebe erwachsener Tiere.) A. Dilger.
103 *Intravenous Anesthesia. W. Keppler and F. Breslauer.
104 Ischemic Paralysis and Contracture. (Beiträge zur Anatomie und Pathologie der quergestreiften Muskelfaser. Experimentelle Studien zur Lehre von der ischämischen Muskellähmung und Muskelkontraktur.) F. Kroh.
105 *Tubercle Bacilli in the Circulating Blood in Surgical Tuberculosis. M. Krabbel.
106 Twelfth Case on Record of Pure Dislocation of the Articulation of Astragalus with the Scaphoid Bone. (Luxation im Talonaviculare Gelenke.) W. Nobe.

103. **Intravenous Anesthesia.**—This communication from the university clinic in charge of Bier reviews the history of attempts to induce general anesthesia by the intravenous route, and then reports extensive experimental experiences. The results with the ordinary anesthetics were highly discouraging; better results were obtained with alkaloids of the opium group.

105. **Tubercle Bacilli in the Blood with Surgical Tuberculosis.**—Krabbel examined eighteen patients with certain surgical tuberculosis and found tubercle bacilli in 66.6 per cent.; also in 20 per cent. of five with tuberculous lymph-nodes and in 25 per cent. of four with mucosa, skin or tendon-sheath tuberculous processes. The finding of the tubercle bacilli is of great differential importance in dubious cases of surgical tuberculosis, when there are no clinically apparent tuberculous lesions in the lungs which might explain the presence of the tubercle bacilli in the blood.

Jahrbuch für Kinderheilkunde, Berlin

January, LXXVII, No. 1, pp. 1-124

107 *Chronic Nephrosis in Children. O. Heubner.
108 Dependence of Calcium Balance on Intake of Alkali. (Abhängigkeit der Kalkbilanz von der Alkalizufuhr.) M Dubois and K. Stolte.
109 The Metabolism of Minerals in Rachitis. C. Meyer.
110 The Blood-Picture in Articular Rheumatism, Chorea, Endocarditis and Pseudochorea. (Zur Kenntnis des Verhaltens des Blutes bei den Rheumatosen.) J. Takeno.
111 Antitoxin in Nervous Phenomena of Diphtheria. (Zur Frage der Wirksamkeit des Diphtherieserums bei Beteiligung des Nervensystems an der Erkrankung.) W. Beyer and H. Kleinschmidt.

107. **Chronic Nephrosis in Children.**—Heubner uses the term nephrosis because he finds that the kidney affections of childhood cannot be classified according to the terminology usually used in describing kidney disease in adults. In a series of 17,000 cases extending over a period of seventeen years he found only seventy-three children with chronic kidney disease. These he divides into six classes: 1. Chronic hemorrhagic nephrosis. Thirty, or almost half of all the cases, were characterized by bloody urine, persisting continuously for years. There was albuminuria of from 3 to 9 per cent. or even higher, with leukocytes and casts of all kinds. Dropsy of greater or less degree was always present. The histological picture was a combination of parenchymatous and interstitial characteristics. A large percentage of these children have the lymphatic constitution, and in cases with otitis, tonsillitis or swollen glands he recommends removal of the tonsils and careful attention to the nose, throat and ear. Specific infections do not seem to be particularly important in this group. The prognosis is difficult. The duration is often for years but the tendency is to grow worse.

2. The second group is very similar to the first except that there is no hemorrhage. Clinically the type is more severe and the course shorter. Dropsy is generally the first symptom that calls attention to the kidneys. Except that there is no blood, the urine shows the same characteristics as in the preceding group. Death generally occurs after several months. The pathologic picture is that of the large white kidney. 3. A true contracted kidney was observed in only one case, that of a patient with hereditary syphilis. 4. There were only six cases in this group, characterized by pyelitis. The process was evidently a septic infection extending upward. Bacteriologically they were all colon bacillus except one case which was streptococcus. The symptoms were fever, pain and swelling in the kidney region, large quantities of albumin and pus and all kinds of casts. 5. This group includes the mild nephroses following acute infectious diseases, chiefly scarlet fever. There were thirteen cases. No dropsy was observed. Frequently there are no symptoms pointing directly to the kidney but when the urine is examined it is found to contain a slight amount of albumin and sometimes hyalin and granular casts. It may last for years without affecting the general health seriously, but if the child is attacked again by an infectious disease it may pass over into one of the more serious forms. 6. This group is practically the same as the preceding, clinically and etiologically, except that it is milder. The albuminuria is intermittent and frequently recovery is complete. The treatment recommended is practically the same as that commonly given for nephritis in adults.

Medizinische Klinik, Berlin

January 19, IX, No. 3, pp. 83-122

112 Epileptoid States in Alcohol Intoxication. E. Meyer.
113 Hernias in General. H. Schloffer.
114 *Ulcerative Colitis. (Colitis ulcerosa und ihre Behandlung.) K. Wegele.
115 The Heart and Competitive Athletics. (Herz, rechte Herzkammer und Sportleistung.) J. A. Grober.
116 *The Question of Diuresis. M. Klotz.
117 Recurring Diphtheria of the Vulva. (Rezidivierende menstruelle Vulvadiphtherie.) M. Penkert.
118 Tentative Research on Treatment of Peritonitis. E. Schepelmann.

114. **Ulcerative Colitis.**—Wegele remarks that the results of operative treatment of ulcerative colitis have not been very encouraging to date. Mummery reported twenty-one patients cured in twenty-seven operative cases and seven patients cured under medical measures alone. Zweig had four die in seven operative cases and two patients were left with a permanent fistula. Wegele cites additional experiences to sustain his assertions that systematic local and internal treatment is liable to cure although not guaranteeing against recurrence. Even surgery has not accomplished this to date The course of ulcerative colitis is extremely chronic and protracted, with a special tendency to recurrence. In the acute stage Rosenheim advises (with Plehn) twelve doses daily, for three days, each 0.03 gm. calomel (0.02 for children), following this with bismuth salicylate. In the chronic stage the intestine must be systematically rinsed out and then a medicated enema injected. It requires great perseverance on the part of the patient but the trouble is well repaid. Application of a powder under rectoscopy should be restricted to the ampulla. He does not regard rectoscopy as so harmless as many do; the medical press last year published five cases of perforation from this cause.

116. **Diuresis.**—Klotz refers to Brodzki's experimental research which demonstrated that milk-sugar has a marked influence in promoting diuresis. The mild diuretic action of lactose was already known to pediatrists. If a child is put on full milk, the majority of the fluid thus ingested will find its way out again in the urine while the stools will become hard Klotz has found a vegetable diet useful in treatment of enuresis as so much of the fluid ingested is diverted to the intestines away from the kidneys. Certain fruits have a diuretic action, but vegetables reduce the output of urine, according to his clinical experience. Diabetics on a vegetable diet find their thirst relieved and the polyuria diminished. He reiterates that in nephritis a vegetable diet will aid materially when it is advisable to reduce the water intake; by its alkaline elements it aids further in reducing the acidity of the urine

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

January, XXXVII, No. 1, pp. [illegible]

119 *Eclampsia. (Behandlung der Eklampsie [illegible] Besprechung.) P. Zweifel
120 Retention of Ovum. (Ueber [illegible] Eier im allgemeinen.) E. W[illegible]
121 *Primary Tuberculous [illegible] Tuberkulose der Vulva ([illegible]

122 Severe Traumatic Injury of the Uterus. (Ursachen, Therapie und die forensische Bedeutung der violenten Gebärmutterverletzungen.) R. Bretschneider.
123 Wassermann Reaction During Pregnancy and the Puerperium. F. Sarateanu and C. Velican.
124 *Interrelations Between Internal Secretions of Mamma and Ovary. F. Cohn.
125 Defects in Scalp of the Newly Born. (Zur Kenntnis der Weichteildefekte am Kopfe Neugeborener.) E. Vogt.
126 *Extradural Anesthesia for Surgical and Gynecologic Operations. T. Bleck.

119. **Treatment of Eclampsia.**—Zweifel reviews the history of the treatment of eclampsia and discusses the different methods in vogue at different periods. He does not believe in operative interference in the majority of cases, and has had far better results with expectant treatment, venesection and the administration of hypnotics according to Stroganoff's method, which was outlined in The Journal, Dec. 21, 1912, p. 2293.

121. **Tuberculous Elephantiasis of the Vulva.**—Daniel reports in detail with histological findings a case of tuberculous elephantiasis and cites seven cases from the literature. The diagnosis from syphilitic or filarial elephantiasis is made by the ophthalmic and Wassermann reactions, microscopic examination of a piece of tissue cut from the growth, and the presence of other symptoms of tuberculosis, fever, loss of weight, enlargement of inguinal glands, tuberculous foci in the lungs, etc. The treatment is complete excision of the growth, but in the majority of the cases there has been recurrence and finally death from tuberculosis of the lungs or intestines.

124. **Effect of Ovarian Secretion on Mammary Gland.**—Cohn concludes from animal experimentation and a number of human cases described that the internal secretion of the ovary exercises a stimulating effect on the growth of the mammary gland but that, on the contrary, it has an inhibitory influence on milk secretion.

126. **Extradural Anesthesia in Surgical and Gynecological Operations.**—Bleck recommends extradural anesthesia with novocain as the method of choice in operations in the region of the sacral nerve and all rectal and vaginal operations, and, with the addition of slight general anesthesia, in Alexander's operation and operations for hernia and on the bladder. He gives as a rule 20 c.c. of a 2 per cent. solution, injected slowly so that the injection requires two or three minutes, due care being exercised to avoid getting inside of the dura. He describes his own results in a series of fifty cases. In sixteen it was necessary to give a general anesthetic during a part of the operation.

Münchener medizinische Wochenschrift

January 21. LX, No. 3, pp. 113-168

127 *Asthma. (Zur Kenntnis und zur Therapie des Asthma.) C. Stäubli.
128 *Blood in the Spinal Fluid. W. Geissler.
129 Botulismus Poisoning; Six Cases. (Gruppe von 6 klassischen Botulismuserkrankungen in der Eifel und der Nachweis ihres Erregers, des Bacillus botulinus.) E. Schumacher.
130 *The Hypophysis and Diabetes Insipidus. M. Simmonds.
131 *Efficiency of Oleum Chenopodii in Ankylostomiasis. (Das Oleum chenopodii gegen Ankylostomiasis und eine neue Methode der Wertbestimmung von Wurmmitteln.) W. Schüffner and H. Vervoort.
132 Graduated Percussion Hammer. (Das Perkussionsquantimeter.) G. Baer.
133 The Cutaneous Tuberculin Reaction in Prophylaxis of Tuberculosis. (Kutanreaktion im Dienste der Schwindsuchtsprophylaxe.) Buttner-Wobst.
134 Psychiatry and Gynecology Bossi.
135 Cerebral Abscess Originating in Ear. (Zur Pathologie und Klinik der otogenen Grosshirnabszesse.) L. Haymann.
136 *Marion Sims. A. Allemann.
137 *Medical Impressions of America. (Allgemeine Eindrücke von Amerika.) Galli.

127. **Asthma.**—Stäubli defines asthma as the result of a spasm of the bronchi plus a vasomotor secretory narrowing and obstructing of the lumen of the finer bronchi. One or the other factor may predominate, and there is generally an inherited predisposition. The musculature of the bronchi and the nerve centers innervating the mucosa and having control of respiration respond with undue readiness to various reflex irritations from the respiratory or gastro-intestinal tract, the genital apparatus or the skin, or to climatic factors, dread and other emotions—the result being a spastic and secretory contraction and obstruction of the finer bronchi, thus interfering with the escape of the air from the alveoli. The air left in the lung (the residual air) and the reserve air, that is, the amount of air which can be expelled by a maximal expiration, are present in such amounts that the actual amount of air that can be utilized is reduced, while the complementary air, that is, the amount which can be drawn in at a breath above the ordinary amount inspired, is reduced to the minimum. Stäubli shows by diagrams the serious condition which may thus result when the lungs are crowded with residual and reserve air, leaving no room for the tidal air. Treatment should aim to reduce this hyperexcitability of the nerve centers involved and of the nerve terminals in the air passages. For general hygiene in these cases he commends a trip to the mountains and horseback riding. Congenial occupation for the mind is a powerful aid, but there is nothing that proves so effectual as a mountain climate. A few months among the mountains frequently banishes permanently the disposition to asthma. Epinephrin is proving the most powerful local measure, with or without a little atropin and cocain. Unless the spray is of the finest, the fluid condenses in the throat and does not reach the alveoli, so Stäubli has invented a little atomizer which works with a very small amount of fluid and can be carried conveniently in the pocket. The tube from the bulb branches, one branch causing the spray which is driven into a funnel inside the atomizer. As the spray emerges from the funnel it is atomized anew by the second air jet from the bulb. The spray by this double manipulation is so fine that it can be driven through a tube a foot long with a lumen of only 6 mm., the tube wound once and a half on itself. A small amount of the ordinary 1 per thousand solution of epinephrin in this pocket atomizer gives the patient confidence that he will be able to abort an impending attack at any time, so he feels free to attend theaters, etc., which in turn has a favorable influence on his general nervous condition. Stäubli has never witnessed any by-effects from this epinephrin spray, and the effect seems to be more lasting than with subcutaneous injections of larger amounts. The attacks grow lighter and the intervals longer. It proved particularly useful for patients who had been recuperating in the mountains. With the epinephrin spray they warded off further attacks after their return.

128. **Blood in the Spinal Fluid.**—Geissler gives two tables to show the special differential points that can be learned from the examination of the spinal fluid.

130. **The Hypophysis and Diabetes Insipidus.**—In Simmonds' case a woman of 37 developed obstinate and intense polyuria two months after removal of a cancer in the breast. The amount of urine varied from 10 to 19 liters a day. Necropsy three months after the operation on the breast showed that the entire posterior portion of the hypophysis had been entirely destroyed by a metastatic cancerous process. Consequently, the polyuria could not have been induced by the secretion from this portion of the hypophysis. Schäfer's research has established that the anterior portion of the hypophysis can have nothing to do with the secretion of the urine. The intermediate portion, although intact, yet must have been irritated to hyperfunctioning by the adjacent destructive process in the posterior portion. The conclusion follows that this pars intermedia is responsible for diabetes insipidus.

131. **Oil of Chenopodium in Hookworm Disease.**—Schuffner and Vervoort state that in their practice at Deli in the last fifteen years they have found uncinariasis extraordinarily prevalent. In the last eight months they have been giving oil of chenopodium a thorough trial in 1,457 cases, comparing the efficacy with that of thymol, naphthol and other vermifuges. Compared with eucalyptus oil with a coefficient of 38, naphthol with 68 and thymol with 83, oil of chenopodium surpassed them all with 91. Another great advantage is that it expels ascarides with the hookworms, thus impressing the minds of the patients much more than when the insignificant hookworms alone are expelled. It is also comparatively pleasant to take.

136. **Marion Sims.**—The *Wochenschrift* pays graceful tribute to American science with a fine protrait of Sims and biograph-

within a few days. As the main focus had been excised in this case and large doses of iodid given, it was a question whether the benefit was due exclusively to the radiotherapy. In a second case a man of 35 was given no other treatment than the exposures when he returned with several fistulas a year after extensive resection of the cheek and upper jaw for actinomycosis. Under the Roentgen exposures, given with the same technic as for tuberculous lymph-nodes, the infiltration subsided and the fistulas soon healed. There has been no sign of recurrence in either case during the more than six months to date.

Zentralblatt für Gynäkologie, Leipsic

January 25, XXXVII, No. 4, pp. 121-152

150 Herpes Zoster in the Puerperium. H. Kunz.
151 "Hands Off the Uterus." ("Hand von der Gebärmutter.") J. Reich.
152 *Signs of Maturity of Fetus at Ninth Month. (Die Reifezeichen der Frühgeburt im 9 Monat.) R. Lutz.
153 Vacuum Capsules for Applying Heat in Chronic Pelvic Disease. (Zur Behandlung chronischer Beckenerkrankungen.) Hasse.

152. **Signs of Maturity of the Fetus.**—Lutz tabulates under twenty-seven headings various details in regard to the physical findings and the behavior of twenty-four infants born at the ninth month. He makes a distinction between "ripe" and "carried to term." Of the twenty-four prematurely born children only three were under 50 cm. in length and nearly every one had all the typical signs of maturity. His practical conclusion is that it is extremely difficult to determine the age of a newly born child from its physical appearance, and great caution is necessary in forensic cases. The length and weight show very little change during the ninth and tenth months. In the ninth month the corporeal development of the fetus is practically completed, the tenth month serves for the further development of the internal structures. His average in a thousand infants was for the eighth month, weight, 2,050 gm.; length, 48 cm., and circumference of the head 34; ninth month, 2,880, 52, 35; tenth month, 3,310, 54 and 37.

Zentralblatt für innere Medizin, Leipsic

January 25, XXXIV, No. 4, pp. 81-112

54 Electric Registration of the Movements of the Vessel Walls with the Pulse; the Electroangiogram. A. Bittorf.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 9, XXXIV, No. 4, pp. 33-40

55 General Principles for Treating Extra Large Hernias; Seven Cases. (Cura radicale dell'ernia ombelicale e dell'ernia della parete addominale.) N. Trazzi.

January 16, No. 7, pp. 65-72

156 *Carbon Dioxid and Malaria. (Ossido di carbonio e malaria.) G. Cajozzo.

January 19, No. 8, pp. 73-88

157 Differential Diagnosis of Ovarian Cysts. (Cistomi ovarici voluminosi.) F. Marinelli.

January 21, No. 9, pp. 89-96

158 Anatomic Predisposition to Paralysis of the Sixth Nerve as Complication of Spinal Anesthesia. (Paralisi del sesto paio come complicanza della rachianestesia stovainica.) O. Tenani.

156. **Accessory Factors in Malaria.**—Cajozzo presents evidence to prove that a predisposition is necessary for the malarial plasmodium to settle in the blood-corpuscles. When the blood-corpuscles are healthy the plasmodium does not get a hold. Everything, therefore, that injures the blood-corpuscles favors malarial infection. Chief among the factors reducing the vitality of the corpuscle is carbon dioxid, whether derived from decaying vegetation or in crowded or defectively heated and ventilated rooms.

Semana Medica, Buenos Aires

December 19, XIX, No. 51, pp. 1281-1340

159 *Curable Forms of Acute Tuberculosis. (La tifo-bacilosis.) G. A. Alfaro.
160 Research on Plasmogenesis. (Nuevas conquistas de la plasmogenia. Los movimientos brownianos se deben a microorganismos.) A. L. Herrera.
161 Comparative Physiology of the Circulation. V. Delfino.
162 Experimental Tuberculosis at High Altitudes in the Andes. N. M. Villazon.

159. **Acute Curable Tuberculosis.**—Alfaro remarks that serofibrinous pleurisy in most cases is merely an acute tuberculous affection of the pleura, and the same may be said of many cases of pneumonia, peritonitis, arthritis, septicemia with endocarditis and even meningitis—each may be of bacteriologically confirmed tuberculous origin and yet the patients recover. The acute form to which he refers in particular has an onset suggesting typhoid to such an extent that Landouzy calls it typhobacillosis. Fever and moderate enlargement of the spleen persist but the temperature curve differs decidedly from that of typhoid. Outside of the hours of high fever the patient's general health does not seem much impaired and he eats with appetite. After six weeks, two months or more, the fever gradually subsides and the recovery becomes progressively clinically complete. Frequently, however, after a few months or even weeks, some tuberculous process in bones or abdomen, pleura, lungs or meninges becomes evident. Some typical cases are described, as for example, the case of a child of 3 or 4 who passed through the first phase suggesting typhoid fever without any local manifestation of the tuberculosis, then followed a period of convalescence and then cough and symptoms of asthma finally traced to a tuberculous lymph-node in the mediastinum entailing tuberculous pleurisy with slight fever for several months but finally terminating in apparently complete recovery with no signs of further trouble during the year since. In another case a pulmonary process developed before the fever of the first phase had entirely subsided, but in both cases the patient seems to have entirely conquered his tuberculosis. In other cases the children escape any secondary phase; one little girl of 4 had for over three months an irregular high fever with a spasmodic cough suggesting whooping-cough, foci of congestion in the lungs, emaciation and tachycardia; her two sisters had had a similar affection terminating in tuberculous meningitis, but the little patient in this case seems now to have entirely recovered, although there is no telling what the future may bring forth, as the cutaneous reaction to tuberculin is still pronounced. Landouzy has had only ten deaths among his more than 200 cases of this kind. In treatment the main point is not to make the mistake of putting the patients on the typhoid diet and keeping them confined in the house. Alfaro sends such patients to the country if possible, keeping them on a light nourishing diet with arsenic and iodids, persisting in the fresh-air course long after all the symptoms have subsided, hoping thus to ward off secondary trouble, and his experience has been very gratifying with this class of patients. He quotes in conclusion the saying of Claisse that nowadays we have to guard against undue pessimism while in the future the trouble will be to guard against undue optimism.

Ugeskrift for Læger, Copenhagen

January 23, LXXV, No. 4, pp. 141-180

163 **Permeability of the Pylorus After Gastro-Enterostomy.* (Passage gennem Pylorus efter Gastroenterostomi og operativ Pylorusforsnævring.) A. Blad.

163. **Permeability of the Pylorus After Gastro-Enterostomy.**—Blad discusses the various methods in vogue for closing up the pylorus in doing a gastro-enterostomy and reports a case in which he folded in the duodenum and pylorus along the lengthwise axis with silk sutures, forming a roll about 6 cm. long, the size of one's little finger. The patient was a woman of 27 with an old chronic duodenal ulcer close to the pylorus, refractory to medical measures. On account of the danger of hemorrhage he considered it wise to close the pylorus entirely. Reexamination seven months later showed that the stomach contents were expelled mostly through the new opening, but that at the same time part passed out through the pylorus. The patient had been freed from all disturbances by the operation, and Blad has become convinced that this technic is the best under the circumstances, that is, a technic which closes up the pylorus for a time and thus permits the lesion to heal while allowing the pylorus to become permeable once more after all danger of irritation of the ulcer by passage of food over it is past. No technic in vogue seems to ensure permanent closure of the pylorus, and this may be an advantage.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

Vol. LX, No. 10 CHICAGO, ILLINOIS March 8, 1913

SOME FEATURES OF THE THEORY AND PRACTICE OF MEDICINE DURING THE SEVENTEENTH CENTURY

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It must not be forgotten that in medicine as in all progressive, and especially in all intellectually progressive, pursuits any distinct period of time is the offspring of the previous and the parent of the succeeding period. Ideas have come over into it from its predecessors and have been transmitted with a variable increment of development to its successors. In this way the seventeenth century is the child of the sixteenth and the parent of the eighteenth century.

In searching for a vital point about which the achievements of this period may group themselves; in seeking the one great fact that distinguishes the seventeenth century from those that preceded it and those that followed it, there can be little hesitation in acknowledging the theory of the circulation of the blood to be the most important contribution to medical science during this period.

Prior to the discovery of Harvey, there had been little advance on the view taken by Praxagoras of Cos in the third century B. C. He is believed to have discovered a distinction between the arteries and the veins, according to which the veins carried blood, while the arteries distributed the vital spirits through the body. The greater thickness of the arterial walls was rendered necessary by the volatile character of their contents. The vital spirits were not fluid nor were they visible. They did not bubble in water as air would do. According to this theory, the blood that passed from the cut end of an artery when a limb was severed had suddenly been absorbed from the adjacent injured parts, the vital spirits forcing this blood violently through the severed artery.

Galen, four centuries after Praxagoras, in trying to explain the entrance of the vital spirits into the arteries, became convinced that it was the air that entered the left ventricle from the lungs. I shall have occasion further on to explain his teaching in detail.

It would seem as if the discovery of the valves in the veins should have opened up the way so plainly that the remaining step might follow immediately as a consequence; but it is easy to be wise after the fact. Harvey was long perplexed. "I found the subject so full of difficulties," he says in the "Exercitatio," "that I was ready to believe with Fracastorius (*motum cordis soli Deo cognitum fuisse*), that the action of the heart could be comprehended by God alone." He pursued the matter for years before the whole truth was opened to him. At length, however, he was able to give a full account of his great discovery in his work entitled "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus," but there was no bookseller in London who would publish it. So he went over with his manuscript to Frankfort, where in 1628 it was finally printed and issued.

EARLY SEVENTEENTH-CENTURY SCIENCE AND MEDICAL THEORY

It was a strange world on which burst this sudden gleam of unaccustomed light. The belief in the transmutation of metals, the search for the elixir of life, judicial astrology, magic and witchcraft lay like a five-fold incubus on the minds of men. Let us take a passing glance at the attainments of the scientific mind in the beginning of the seventeenth century.

The belief in the transmutability of the baser metals into gold was as firm in the seventeenth century as in the twelfth. It was not perhaps as prevalent, but it was as sincere, and as eagerly prosecuted. It was stimulated, moreover, by plausible successes in the past. Raymond Lully was said to have changed fifty thousand pounds of some other metal into gold for Edward I of England, and many instances of similar success still held out vast promises of wealth and the power that comes from wealth to the eager hopes of the contemporaries of Milton and Sir Thomas Browne. The word "element" was current at the time in a sense so near to that which it now bears as to obscure the essential difference between the two actual meanings. Everything was thought to consist of one or more of the four elements then recognized—earth, water, fire and air—but these so-called elements themselves were not thought of as simple homogeneous indivisible bodies which is our present conception of an element. So the metals were regarded as compounds, and mercury and sulphur were thought to be their constituents. The only necessity, then, for the production of gold was a rule that would give the requisite directions as to the amount of the mercury and of the sulphur required, the degree of purity that was requisite in each, and the temperature to which the mixture was to be exposed, as well as the period of exposure. It was stated[1] as an ascertained and familiar fact that gold was composed of a most pure red sulphur and of the purest quicksilver.

> This metal is only perfect; all other is corruptible. It is concocted with sufficient heat and mixture of sulphur, whereas all other metals, either are not so well concocted, or else they have not the due quantity of brimstone; and because Nature in all her works seeketh the best end, she intendeth of all metals to make gold; but being hindered either for want of good mixture or good concoction, she bringeth forth other metals. Silver is the most pure metal next unto gold. It hath an indifferent good concoction, but it wanteth sufficient

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[1] Swan, Charles: Speculum Mundi.

> heat in the mixture and therefore it looketh pale. It is a metal composed of pure white mercury and of clear white brimstone or sulphur.

This book was published in the year 1635, the year before Harvard College was founded. Sir Thomas Browne was then 30 years old; Milton had already achieved fame as a lyric poet, and Charles I had occupied the throne ten years. As an indication of the tenacity of this belief, I may add that about the beginning of the nineteenth century, Dr. Girianger of Göttingen made the confident prediction that before the nineteenth century had closed "the transmutation of metals will be generally known and practiced. Every chemist will be able to make gold."

If the transmutation of the metals was an appeal to men's thirst for power through the acquisition of wealth, judicial astrology was an attempt to gratify their desire to know what the future would bring to them as individuals. It is believed that alchemy gave birth to chemistry, and astrology to astronomy; but this is only partly true, for in each the method has been altered, the purpose has changed and the result altogether differs. But in the seventeenth century everybody believed in astrology. It was recognized by Parliament and accepted by Oxford and Cambridge. The author of the "Anatomy of Melancholy," Robert Burton, an English clergyman and a resident fellow at Cambridge, cast his own horoscope, and his life ended at the moment he had predicted.

Bacon, in his "Essay on Prophecies," says:

> When I was in France I heard from one Dr. Pena that the queen-mother, who was given to curious arts, caused the king her husband's nativity to be calculated under a false name; and the astrologer gave a judgment that he should be killed in a duel; at which the queen laughed, knowing her husband to be above challenges and duels.

But he was slain in a tournament, running against a knight named Montgomery, whose lance was split, and a splinter ran in at the king's beaver and killed him. Bacon died in 1626, two years before Harvey's book appeared.

In the year 1647 the astrologer William Lilly was consulted by King Charles I as to some expedient that would ensure the royal safety. The king's horoscope was cast and a way pointed out by which danger might be averted; but among the crowd of royal counselors, he neglected to follow the advice of the astrologer, and lost his kingdom and his life. In 1651 Lilly published a book called "Monarchy or No Monarchy," containing two hieroglyphic figures, copies of which are in my possession, which seem to foretell the plague of 1665 and the great fire that destroyed the city of London in 1666, fifteen years after the prophecy was published. He also predicted the exact duration of the interregnum and foretold the date of the Restoration.

In 1665 Lilly settled at Horsham and in 1670 he was licensed to practice medicine. Lilly's "Grammar of Astrology" was so much in vogue at Cambridge that he dedicated a second edition to that university. John Kepler, who died in 1630, and who discovered that the planetary orbits are elliptic and not circular, was not only an astronomer, but he also advanced astrology by developing some of its theories. He even added five aspects to the five that were in use before his time. There was, to be sure, a strain of mysticism in Kepler's nature which brought him into sympathy with occult forces.

As the production of gold promised power, and as astrology foretold the future, so the elixir of life held out a certain hope of the renewal of youth. The quest of the elixir was becoming less general and less confident of success, but it had not entirely died out at the middle of the following century, for Casanova duped Mme. D'Urfey into a belief in his ability to rejuvenate her, and he tells the story himself. Sir Thomas Browne, a physician of well-merited fame, acknowledged that the desire for length of days is not an unlawful one, but he perceived the fallacy of the attempt to procure it. He said:

> Were there any hopes to outlive vice, or a point to be superannuated from sin, it were worthy our knees to implore the days of Methuselah. But age doth not rectify but incurvate our natures, turning bad dispositions into worser habits and, like diseases, brings on incurable vices; for every day as we grow weaker in age, we grow stronger in sin, and the number of our days doth but make our sins innumerable.[2]

On March 14, 1618, Margaret and Phillis Flower were executed for the crime of bewitching Henry, the eldest son of the Earl of Rutland, and causing his death, and "for preventing by diabolical arts the said earl and his countess from having any more children." They were tried before Sir Henry Hobart, the Chief Justice of the Common Pleas, and condemned to death. It was proved that to destroy the son, they had taken a glove belonging to him and had buried it in the ground; and that "as that glove did rot and waste, so did the liver of the said Henry rot and waste." They were burned at the stake.

The witch statutes of the English penal code were enacted in the thirty-third year of Henry VIII, in 1542, and were not repealed until 1736. During the whole of the seventeenth century, then, they were enforced by the authority of the Crown, of Parliament and of the King's Bench. In that century, too, every one believed in witchcraft. Sir Thomas Browne concurred without hesitation in the justice and propriety of the laws punishing witchcraft with death. Perhaps no abler judge has ever sat on the bench than Sir Matthew Hale, the famous chief justice during the reign of Charles II. His vigorous intelligence, his rectitude of judgment, his gentle disposition and his clear mind combined with his remarkable learning to make him a great judge. At Bury St. Edmunds, at the spring assizes, two widows named Rose Cullender and Amy Duny were tried as witches in his court. They were accused of having bewitched several children, among whom were Elizabeth and Deborah, aged 11 and 9 years, children of a merchant named Samuel Pacy. The father testified that his younger daughter, being lame and unable to use her legs, had been carried out to a bank overlooking the sea, and while she sat there, Amy Duny, who had the repute of being a witch, came to the house for food and was refused. She went away grumbling and at the moment when she passed by the bank where Deborah Pacy was sitting, the child was seized with a violent fit. The child's father at once lodged a complaint before the local magistrate, and Amy Duny was ordered to be set in the stocks. While she was there two women asked her what she had done to Deborah Pacy. She replied:

"Mr. Pacy keeps a great stir about his child, but let him wait until he has done as much by his children as I have done by mine." Being asked what she meant, she said that "she had been fain to open her child's mouth with a tap to give it victuals." This remark was

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[2] This passage may be found in the Religio Medici, which was published in 1642.

That such might easily have resulted was proved by the keen opposition that Harvey's discovery encountered throughout the whole of Christendom. The laws against unlicensed printing were at this time enforced in all their rigor; and no adequate argument had yet, in 1628, exposed their iniquity. Moreover, while in England there was less virulent antagonism to Harvey's theory than on the Continent, yet this was so essentially revolutionary that the authority of the Star Chamber must have been invoked for its suppression and for the punishment of the printers, if these had been within the jurisdiction of the English courts of law.

In the seventeenth century the works on natural history contained descriptions of the unicorn, the dragon, the basilisk and other fabulous monsters, which had constituted the folk-fauna of medieval romance. Ambrose Paré did not doubt the existence of the basilisk. He even gives a drawing of the monster with his description of it. These works stated seriously that at the approach of winter the humming-birds clung to the branches of the trees by the bill and there died; that the sun and the spring rains revived them and they detached themselves and flew "about their business." The swallows spent the winter in the mud at the bottom of rivers and lakes, whence they were sometimes dragged to the surface in fishermen's nets. In the year 1663 the Thames was frozen over, and booths were erected and games played on the ice. Pepys records that large holes were dug and nets of great length spread under the ice, wherein at a draught from 130 to 170 barrels of fish were taken. "Swallows are often brought up in the nets out of the mudd from under water, hanging together to some twigg or other, dead in ropes, and brought to the fire will come to life."

Burton, writing in 1625, speculated whether the peak of Teneriffe was 70 miles high or only 50. Its actual height is 12,192 feet. Vicente Espinel,[3] who died in 1634, believed that the water in Spain was lighter and more easily digested than that in Italy, "because the latter contained more moisture." So in "Purchas His Pilgrimes," published in 1625, we read, "Some of our merchants have weighed the water at Aleppo and ours in England, when they have come home, and do find their water lighter than ours by 4 ounces in the pound; and the lighter the water is, the more pleasant it is to drink, and goeth down more delectably as if it were milk rather than water."

They declared that since the heat of the sun in England could draw the water out of a saucer, doubtless in torrid countries its more vehement heat could also draw up wheat and other grains, and even draw the milk out of a cow; that sorcerers could sell winds to sailors by the help and favor of the devil, who is called in scripture the Prince of the Air (Ephes., ii, 2), and that rock crystal was nothing but snow that had been long frozen. They argued that the land floated on the surface of the sea like an island; and that there was more land than sea they proved from the passage in the book of Esdras, in which it is said that God gathered the waters into the seventh part of the earth and dried up the other six parts. They similarly believed that only the superficies of the earth was land, and that the waters bore up the earth, for the reason that the psalmist says (Ps. xxiv, 2), "He hath founded it upon the seas and established it upon the floods." Thus rivers have their origin from the sea, "which is the fountain-head from which all fountains have their springs."[1] The argument was final that drew its proof from the Scriptures.

It is almost as difficult to realize what was the condition of medicine without chemistry and without physiology as it would be to realize what our civilization would be without Christianity; and yet until the seventeenth century, the few and uncertain steps that these sciences had made is a matter of keen surprise. In chemistry they had learned to obtain by distillation alcohol from wine, acetic acid from vinegar, sulphuric acid from alum, and nitric acid from potassium nitrate (saltpeter) and ferrous sulphate (green vitriol). They had discovered how to convert metals into their oxids by heat and how to purify sulphur. They were acquainted with silver nitrate and mercuric chlorid (corrosive sublimate).

There seem to have been two different kinds of elements recognized, one of a physical and physiologic and the other of a chemical character, if these terms may thus prematurely be employed. The physiologic elements were earth, air, fire and water, of which in varying proportions all bodies were composed. These were modified by the four temperaments, *hot, cold, moist* and *dry*. There is something physiologic about them, since they altered and in turn were altered by the changing conditions of the body, and their fluctuations had a varying effect on the vital processes. The chemical elements were sulphur and mercury, regarded as simple substances, to which salt was afterward added as a third element. It has been affirmed that these substances were not at all what we have in mind to-day when we speak of them; that sulphur was that property of matter that was destroyed in combustion, that mercury was the property that was volatilized and could be recovered, and that salt was the ash or residue; but there can be no doubt that when the alchemists of the seventeenth century experimented with sulphur and mercury, they did not expect that the result would be a new grouping of attributes or a complication of symbols, but a real and tangible compound of sulphur and mercury, to wit, gold.

The comparative importance of the four physiologic elements was a fertile field for philosophic and polemic discussion throughout Christendom for many centuries. To narrate it would be to narrate the search for the chimera. In the early years of the seventeenth century, however, Van Helmont determined to submit the question to an exact test. He planted a willow weighing 5 pounds in a tub of earth, and for five years added nothing but water to the tub. At the end of five years the willow weighed 169 pounds and the earth in the tub had lost 2 ounces. He concluded therefore that at least 164 pounds of the tree must be water. As a result of his experiment, he announced his belief that there were only two elements, air and water. His test was a good one and showed the scientific spirit that was abroad. Of course he could not know anything of carbon dioxid and of chlorophyl. He died in 1644.

There were thought to be three spirits which inhabit the body, the natural spirit whose seat was the liver, the vital spirit whose home was the left ventricle and the animal spirit which dwelt in the brain. The natural spirit pervaded the venous blood, the vital spirit was carried by the arteries, and the animal spirit coursed through the nerves, which were tubular in life though closed after death.

The liver was considered to be the seat of anger, the spleen that of envy, and the heart that of love and courage. The four humors which Hippocrates had discovered and named still ruled the body. These humors were blood, phlegm, black bile and yellow bile. The spleen was the seat of the black bile and melancholy was a disease of the spleen; the liver was the seat of the yellow bile. The nasal mucus was still regarded as the condensation in the brain of the vapors which mounted from the body. Digestion was still thought to be produced by the innate heat of the stomach. It was a kind of cooking, and was in fact called coction.

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[3] In his "Marcos de Obregon."

As for the physiology of the brain, it was comprised in a few words: "The three principal faculties of the mind, the understanding, the imagination and the memory, reside in the different ventricles of the brain, the imagination having its seat in the forepart, the memory in the hinderpart and the judgment or understanding in the middle." This is of course a philosophic and not a scientific conjecture.

The distinction between philosophic medicine as inculcated by the followers of Galen, and scientific medicine as introduced by the use of experiment and observation, finds a curious comment in a story that is told of a question propounded by Charles II for the consideration of his courtiers, "whether a vessel of water would gain in weight by putting a fish into it." Long and hot the discussion lasted, and the conclusion was finally reached that a live fish would not increase the weight of the vessel, but that a dead fish would. This was philosophy. Long afterward it occurred to some skeptic to test the conclusion by actually weighing the vessel under these different conditions. This was science.

Dr. Willis, as late as 1659, maintained that all natural changes in organic bodies depended on fermentation in their constituent principles, which were spirit, sulphur, salt, water and earth. Sir George Ent, the president of the Royal College of Physicians, taught that the purpose of the blood was not to nourish the body, but to keep it warm, and that "the urine is not conveyed to the kidneys by the arteries but by the nerves."

Indeed, it is not an easy task to discover among the various physiologic beliefs that were current before Harvey, any that still hold a place in modern science. The microscope, in its early form and considered mainly as an interesting toy, dates from the beginning of the seventeenth century. It consisted merely of a double convex lens in a frame, with an eyepiece holding a single convex lens. With this simple apparatus the circulation in the capillaries was observed, the red and the white corpuscles of the blood were discovered, and the spermatozoa and the ovum were detected. The discovery[4] of the spermatozoa in 1677 was the occasion of the passage of a law which held its place among English statutes for many years. As soon as they were discovered they were regarded as the true germ or microcosm of man, while the ovum of the female was considered as consisting merely of food for the sustenance and growth of the new being. The female was looked on then merely as affording a home for the growth of the fetus, and Parliament, accepting this hypothesis, decided that the mother, having contributed nothing to its being, was not of kin to the child.[5]

Bacon's treatise on the "Advancement of Learning" appeared in 1605. In this essay he not only summarizes the spirit of the intellectual development of the past, but also ventures to indicate the present defects and to point out the path of progress to the future. His scope is so wide as to leave no intellectual interest unconsidered and no intellectual activity unnoted, and among them all, he pays due regard to the theory of medicine. Among other defects he notes the lack of careful intimate study of the body. He says:

> As the sense afar off is full of mistaking, but is exact at hand, so it is of the understanding; the remedy whereof is not to quicken or strengthen the organ, but to go nearer to the object. Medicine is a science which hath been more professed than labored, and yet more labored than advanced; the labor having been in my judgment rather in circle than in progression. For I find much iteration, but small addition. . . . The deficiencies which I think good to note . . . I will enumerate.
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> The first is the discontinuance of the ancient and serious diligence of Hippocrates, which used to set down a narrative of the special cases of his patients, and how they proceeded and how they were judged by recovery or death. This continuance of medical history I find deficient, which I understand to be neither so infinite as to extend to every common case, nor so reserved as to admit none but wonders. For many things are new in the manner which are not new in the kind; and if men will intend to observe, they shall find much worthy to observe.
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> As for the footsteps of disease, they ought to have been exactly observed by a multitude of anatomies, and the contributions of men's several experiences, and carefully set down, both historically, according to the appearances, and artificially, with a reference to the diseases and symptoms which resulted from them, in case where the anatomy is of a defunct patient; whereas now, on opening of bodies, they are passed over slightly and in silence.

In these few words is a recognition of the benefit to be derived from a careful and painstaking record of cases and from post-mortem examination, which the physicians of this generation now readily acknowledge, but which was almost entirely neglected during the earlier part of the century which at present occupies us. We certainly know to-day that only thus do we reap the full advantage of our own experience, for memory is treacherous and impressions fleeting. Before the seventeenth century closed, this reproach was to be removed from the record of medicine.

Vivisection of animals could scarcely seem to promise much valuable instruction while the theories of the humors underlay, or rather overwhelmed, all the conceptions of physiology; but Bacon's insight into the needs of medicine in his time is nowhere more keenly indicated than in his recognition of the value of vivisection; for Bacon himself accepted the so-called humoral pathology that was destined to dominate medicine until its reluctant sway was broken by Pasteur and Virchow. Here are Bacon's words:

> In the inquiry which is made by anatomy, I find much deficience: for they inquire of the parts and their substances, figures and collocations; but they inquire not of the diversities of the parts, the secrecies of the passages and the seats or nestlings of the humors, nor much of the footsteps and impressions of diseases: the reason of which omission I suppose to be because the first inquiry may be satisfied in the view of one or a few anatomies; but the latter, being comparative and casual, must arise from the view of many. And as to the diversity of parts, there is no doubt but the framing of the inward parts is as full of difference as the outward, and in that is the cause continent of many diseases, which not being observed, physicians quarrel many times with the humors, which are not in fault, the fault being in the very frame and mechanic of the part, which cannot be removed by medicine alterative, but must be palliated by diets and medicines familiar. And for the passages and pores, it is true what was anciently noted, that the more subtile of them appear not in anatomies, because they are shut and latent in dead bodies, though they be open and manifest in life: which being suffered, though the inhumanity of *anatomia vivorum* was by Celsus justly approved: yet in regard of the [illegible]at use of this *obser-*

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[4] By Von Hammen, of Leyden.

[5] "Mater non numeratur inter consanguineos." Swinburn, "On Testaments," Part VII, Section 8.

vation, the inquiry needed not by him so slightly to have been relinquished altogether, or referred to the casual practice of surgery, but might have been well diverted on dissection of beasts alive, which, notwithstanding the dissimilitude of their parts, may sufficiently satisfy the inquiry.

It is true that Bacon was not himself a physician, in the sense of diagnosing disease and prescribing remedies, but perhaps no one ever predicted so well as he the exact path of development that the profession of medicine must take to regain its true position in the intellectual world. Pliny, likewise, was not a physician, though his "Therapeutics" was a wonderful maze of half-knowledge miraculously misapplied, and yet his "Natural History," such as it was, maintained its authority as a text-book for sixteen centuries; so, too, Celsus was not a physician, yet between Asclepiades and Galen, no one did so much as he to improve the science of medicine. And we must not forget that for many centuries medicine was considered to be merely a department of philosophy; and while philosophy seems to be able to thrive without medicine, it will some day come to be realized that medicine cannot fulfil its high mission without the assistance that philosophy alone can furnish. Bacon's suggestion of animal experimentation was timely and fruitful. It had been used irregularly before his time, but it is only within recent years that it has entirely vindicated its right to a high place in the researches of medicine.

(To be continued)

WHEN IS OPERATIVE TREATMENT INDICATED IN CHRONIC DYSPEPSIA?

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The stomach has been unjustly accused of more pathologic sins, and has received more unnecessary treatment than any other organ of equal size and importance. Nearly all of these transgressions are included under the general term "dyspepsia," about which much has been written and but little known until recently, when the pathology of the organs in the abdominal cavity has been correctly studied by direct inspection in the work of the abdominal surgeon.

We find in our best text-books on medicine beautifully written chapters on the classification, etiology, symptomatology, diagnosis and treatment of chronic dyspepsia, some of which have been copied and handed down for generations. These descriptions are full of errors as we now know from the study of the pathology of the living. The diagnosis was based mainly on theory and fancy, and was seldom correct; hence the treatment was empiric, and in the newer light of to-day is seen to have been often harmful. Unfortunately some of our best men who confine their work to the medical treatment of diseases of the stomach and intestines have not availed themselves of all the wisdom to be gained in the surgical arena by direct inspection of the diseased organs in the abdominal and pelvic cavities. The text-books on medicine tell us about acid gastritis, acid dyspepsia, hyperchlorhydria, flatulent dyspepsia and nervous dyspepsia as entities, when in truth most of these conditions are caused by gall-stones, appendicitis, peritoneal adhesions, pelvic infection, ileocolitis, intestinal tumors, etc., and the stomach is trying to tell us about a pathologic condition somewhere else that is giving it trouble.

The term "functional dyspepsia" should be eliminated from medical nomenclature, for if this disease ever exists it is so infrequent as to be practically negligible, and hyperchlorhydria is only a symptom, an increase in the secretion of hydrochloric acid, usually with no structural lesion of the stomach. Like the digestive enzymes, the secretion of hydrochloric acid may be increased or diminished by a change in diet and in other ways, as shown by Starling and Pawlow.

The effort to construct a pathology on chemical analyses of the stomach secretions has been a total failure, for practically the same chemical findings may obtain in several distinctly different diseases that cause the stomach trouble. The test-meal alone is of little value as an aid to diagnosis in either ulcer or cancer, and if we delay in the latter to confirm the diagnosis by this means, the disease will then have progressed so far that surgery can offer no relief. The presence of lactic acid, food remnants, blood, low acidity, and the Boas-Oppler bacillus, and the absence of free hydrochloric acid may be found in some cases of latent calloused ulcer and reflex pylorospasm, and are in no sense pathognomonic of cancer. In cancer there may be a normal or even a high acidity, and this is especially true when the pyloric end of the stomach is not involved. In such cases cancer may stimulate the pyloric glands to a more active secretion of acid.

While I do not deny that there is value in stomach analysis, it must always be subordinate to the clinical history and the physical examination. It is only an additional aid in diagnosis. Stomach analysis in chronic gastric and duodenal ulcer is of far less value in diagnosis than is stomach motility, which can be more correctly observed and more intelligently interpreted. The x-ray has been of much value in this particular in showing the motility in impaired stomach drainage.

Let me make a more definite classification of the causes of chronic dyspepsia, that we may have a more intelligent conception of the treatment best adapted to the cure of the trouble in the stomach, or to the removal or modification of the condition in some other part of the body to which the stomach is trying to direct our attention in a language of its own, much of which may now be correctly interpreted:

1. In 90 per cent. of cases of chronic dyspepsia there is no pathologic lesion in the stomach, and the conditions requiring operation in the entire gastro-intestinal tract, and all structures in the abdominal and pelvic cavities do not exceed 30 per cent.
2. In about 30 per cent. the stomach trouble is caused by cardiac and kidney insufficiency, tuberculosis, arteriosclerosis, tabes dorsalis, etc.
3. Another 30 per cent. is caused by congenital or acquired defects in the viscera of the abdominal and pelvic cavities, plus gastro-intestinal neuroses—gastroptosis, enteroptosis, atonic dilatation of the stomach, etc.

Stomach complaint is the most common manifestation in neurasthenia, especially inborn neurasthenia. It has been said that the abdominal surgeon has invaded the territory of the physician and has encroached on his field, but this is not true. The same was said when the surgeon began curing appendicitis by removing the appendix, but no one will make that contention now, and those who are best able to judge know that medicine does not cure appendicitis, and that purgation in every case of acute appendicitis is positively contra-indicated. It quickly increases peristalsis of the lower ileum, appendix and cecum, fills this part of the bowel with liquid, with a great increase in the number and virulence of the bacteria, all of which is positively harmful, and is often the cause of perforation or gangrene of an appendix which might have caused no immediate harm had it been left at rest.

I do not remember to have operated for several years in a single case of perforated or gangrenous appendix until after the patient had been given a purgative. There can be no conflict between the well-trained and honest physician and surgeon, as both are striving to accomplish the same end—to cure the patient. The duties of one do not always cease where the duties of the other begin, but there is necessarily often an interlacing to give the patient the full benefit of the knowledge of both. Far better would it be for all concerned if the physician would follow his abdominal cases into the operating-room and study with the surgeon the pathology of the living. He and the surgeon might then have a more intelligent agreement about the diagnosis and treatment of the case.

It is probably true that some of the best-known men in internal medicine, men who contribute much to medical literature, have seldom or never seen an abdominal operation in a living person. This necessity for studying by direct inspection the pathologic condition in the abdominal cavity that causes the stomach to complain is no less necessary in the study of all diseases in the abdominal cavity that have no stomach manifestations. Since this has been done the traditional fads and fancies in the diagnosis of these diseases are passing away like the snow when the warm rays of the sun shine on it. Pelvic cellulitis is now suppurative salpingitis; pelvic intraligamentary hematocele is now ruptured extra-uterine pregnancy; idiopathic peritonitis in the right middle quadrant and perityphlitis are now appendicitis.

We were told that tuberculosis of the bladder was always primary and that tuberculosis of the kidney was usually an ascending infection, and secondary to the bladder involvement. We now know that practically 100 per cent. of bladder tuberculosis in women is secondary to kidney involvement; the same is true of 85 per cent. in men, the other 15 per cent. being secondary to tuberculous involvement of the epididymis, vas deferens, seminal vesicles and the prostate.

We were told that chronic ulcer in the stomach was usually multiple and ten times more frequent than chronic ulcer in the duodenum. We now know that chronic ulcer in the stomach is multiple in about 6 per cent. of cases and that we have one ulcer in the stomach to three in the duodenum.

We were told that the ingestion of food in chronic ulcer of the stomach and duodenum caused pain and symptoms in the stomach immediately or soon after eating. We now know that it seldom or never does so except in old cases in which there is obstructed stomach drainage. In stomach ulcer food relieves pain for from one-half to one and a half hours, and in duodenal ulcer it relieves pain from one to three hours. This is so conspicuously true that a patient with ulcer in the stomach or duodenum will put bread in his pocket when he leaves his home or goes to his bedroom at night, to eat when pain returns. We were told that gastric and duodenal ulcers were more frequent in women. We now know that about 75 per cent. of these ulcers are in men and about 25 per cent. in women.

We were told that in 90 per cent. of the cases gall-stones cause no symptoms, and that the gall-stones are innocent. We now know that there are symptoms in nearly every case of gall-stones and that gall-stones may at any time cause serious infections and secondary complications.

It will thus be seen that the surgeon who has built a new pathology based on direct inspection of the pathology of the living was often compelled to "tear down and reconstruct; he used the sledge-hammer and the crowbar as well as the trowel and the plumb-line." While the bladder could be directly inspected through the cystoscope and the ureters and the secretion of the kidneys by the ureteral catheter, and stone in the kidneys and bladder by the *x*-ray, no such record could be achieved by the gastroscope, and the *x*-ray had not been of much value except in inspecting stomach motility. It was therefore necessary to inspect the stomach and other abdominal viscera through an abdominal incision.

It was the gynecologist who made possible these great achievements by demonstrating in the surgery of the uterus and its adnexa that the peritoneum is tolerant to much manipulation when treated with reasonable respect, and by avoiding rough handling and the introduction of septic matter. The surgeon then began his invasions of the middle and upper regions of the abdomen, and must be given full credit for what he has done. In the investigative work of the abdominal and pelvic surgeon he has made the peritoneal cavity a research laboratory, and has given us the pathology of the living at a time when life may be saved by timely surgical intervention.

We must also give due credit to the excellence of the work done in the research laboratories in physiology, physiologic chemistry, bacteriology, etc., from the study of which so much has been learned of incalculable value to the surgeon and the physician in their treatment of all gastro-intestinal diseases, and all diseases of the intra-abdominal viscera. Cannon, Pawlow, Starling, Metchnikoff, Cushing, Herter and many other research workers in the physiology of digestion and the motility and bacteriology of the gastro-intestinal tract have given us a practical conception of much that is necessary to a correct understanding of the pathology and the treatment of the diseases of the stomach and the intestines. The names of these men will live in history when the work of the surgeon will have been forgotten.

Before post-mortem investigation the practice of medicine was empiric and the diagnosis and the treatment of all internal and hidden diseases in the abdomen was based on fads and fancy. While the study of pathology in the dead was the beginning of the scientific study of disease, it led to pessimism, for it dealt only with end-results and showed conditions that did not exist at a time when the disease could have been cured. "But few people with chronic disease die of the disease with which they suffered during life"; most die of terminal infections or secondary complications.

The cellular pathology of Virchow was another scientific advance, but as it mainly dealt with end-results it was for the time being of but little practical use in curing disease.

It may thus be easily understood that in diseases of structures in the abdominal cavity we can build up no correct pathology at a time when the patient may be cured, unless it be based on direct inspection, through an abdominal incision, of pathologic conditions in the living.

The 30 per cent. of dys[illegible]sia c[illegible]d by general diseases is never surgical. [illegible]pepsia cur[illegible] the application of trea[illegible] treatment must be given to cure the disease that is causing the stomach to complain. The 30 per cent caused by neurasthenia, atonic dilatation of the stomach, gastroptosis, enteroptosis, nephroptosis and gastro-intestinal neuroses will not be cured by treatment applied to the stomach. We must treat the condition that causes the stomach symptoms. The treatment of these cases is medical except in some cases of dyspepsia caused by ptosis of the right kidney and hepatic flexure of the colon, and midline ptosis of the stomach and transverse colon when the colon has remained fixed at the hepatic and splenic flexures.

In the first, the kidney and the colon may be elevated and fixed through a posterior incision, and in the latter we may sometimes obtain good results by shortening the falciform, the gastrohepatic and the gastrocolic ligaments, one or all as may be indicated by the condition, this to be supplemented by stitching the great omentum across the anterior abdominal wall 2 inches above the umbilicus, to serve as an apron for the stomach. Coffey has done good work of this kind, as have others by similar operations; but in cases of general enteroptosis with continued dyspepsia; operative treatment has done but little good. Most of these patients have inborn neurasthenia, and to treat them successfully we must begin with their great-great-grandparents, an undertaking beyond the limit of medicine or surgery. These patients and others with inveterate stomach trouble with acquired neurasthenia, gastro-intestinal neuroses and the gastric crises of tabes dorsalis have been persistently treated by the physician and the quack, and the surgeon has left his mark on the abdomen following a laparotomy for gastrojejunostomy. They have been treated by electricity, by Christian Science and osteopathy, have had their stomachs daily lavaged, and have taken all the vile nostrums of the advertising "patent-medicine" fraud, with about the same result. They continue to complain of stomach trouble and are only too willing to try something else.

Fortunately the surgeon in his treatment of these patients in the last few years has learned much that is of value in guiding him against doing unnecessary or harmful stomach drainage operations. The impaired drainage in these cases is the result of atonic dilatation and impaired stomach motility, and not of obstruction. In such cases gastrojejunostomy does not drain, can do no good, but has done much harm. No surgeon who should be recognized as capable of treating the diseased viscera in the abdominal cavity would now try to drain the stomach in these patients. Acute ulcer of the stomach or duodenum is toxemic, caused by septic foci in other parts of the body, and is never surgical unless it be for perforation. These patients either die promptly or recover in a few weeks. Hematemesis, with no characteristic symptoms of long standing, is not surgical for it may be profuse or fatal when no ulcer can be seen, and it requires a magnifying glass to see the general erosion or fissure from which the blood is oozing. Vomiting of much blood is not an unusual symptom in cirrhosis of the liver and enlargement of the spleen, and it may be caused by acute or chronic appendicitis. That appendicitis has a causal relation to the etiology of gastric erosion or acute and chronic ulcer is evidenced by the frequent association of these conditions, and the appendicitis often appears to antedate the stomach trouble. In Hutchinson's report of twenty-four deaths caused by postoperative hematemesis, twenty-one followed operations for septic appendicitis. Every abdominal surgeon of broad experience has observed the frequent association of a chronic appendicitis with dyspepsia, and has noted the fact that in these cases, if the stomach has no organic lesion, the dyspepsia is cured when the appendix is removed.

Dyspepsia in some degree is nearly always associated with gall-stones, the removal of which cures the stomach trouble. The same is true when the dyspepsia is caused by intestinal or peritoneal adhesions or pelvic infections. When the exciting cause is removed the dyspepsia disappears. This, however, presupposes that there is no lesion in the stomach or elsewhere that may cause the dyspepsia. It is not infrequent to find in these cases an association of chronic appendicitis and gall-stones, and we may also find stomach or duodenal ulcer, to which peritoneal adhesions, pancreatitis and pelvic infection may sometimes be added. Just here lies the necessity for the surgeon to make an examination of all the structures in the abdominal and pelvic cavities through a wide incision, where there is no contra-indication. The failure to do this has often given an excuse for criticizing the surgeon because the patients were not cured; he was accused of doing unnecessary surgery, when he should have been censured for not doing enough surgery.

In my operative work in the abdomen I never fail to make the most thorough examination of all the viscera of the abdominal and pelvic cavities except in septic cases, and in cases in which the condition of the patient is such that any continuance of the operation would endanger the immediate result. Were I to report in detail the many cases of chronic dyspepsia of long standing, with no stomach or duodenal lesion, which have come under my observation and been cured by the removal of all the pathologic conditions in other abdominal structures, the report would be too long for any one to read.

There is but one treatment that can cure the inveterate dyspepsia caused by calloused gastric or duodenal ulcer, and that is surgery, and always surgery. The symptoms may subside under other treatment, by diet, rest and the observance of correct hygienic and sanitary laws, but the disease is not cured; the symptoms have disappeared to return at another time. This is conspicuously true in duodenal ulcer. Some of these patients have been cured many times, but the symptoms always return, and in the cases of permanent cure there was an error in diagnosis; the patients never had calloused ulcer. They are always made worse in cold, damp weather, and they improve or may be entirely cured of symptoms in warm, dry weather. They are made worse by worry and overwork, but if the worry is removed and the work lessened they improve. A change from a damp, cold climate to a warm, dry climate will be followed by much improvement, or even by cure of the symptoms. These seasonal changes are so manifest that patients who can afford to do so will change their residence with the change in season. The above is true in a lesser degree in chronic calloused gastric ulcer. The anamnesis in these cases, particularly in ulcer of the duodenum, is of greater value in diagnosis than are all other symptoms combined.

While the treatment of chronic gastric and duodenal ulcers is operative, we must always be able when the stomach or duodenum is exposed to demonstrate by sight or touch, or by both sight and touch, the presence of an ulcer. This can be done, for the ulcer has invaded all the layers of the wall. If no ulcer can be seen or felt, the abdomen should be closed at once, unless a pathologic condition that the stomach has been trying to tell us about can be found somewhere else.

In all cases of duodenal ulcer and in nearly all cases of gastric ulcer a gastrojejunostomy is indicated. In duodenal ulcer the ulcer should be infolded by several linen or silk sutures introduced from side to side and deep enough to include the vessels going direct to the ulcer. Excision is seldom indicated because the patients are cured as well without it, and cancer seldom, if ever, develops in a duodenal ulcer. As nearly 75 per cent. of cancer in the stomach develops in a chronic ulcer, then in addition to the gastrojejunostomy the ulcer should usually also be excised. In many of these excised ulcers McCarty and some other pathologists have found well-developed carcinoma.

In conclusion I wish to note that 90 per cent. of ulcers in the stomach are in the lesser curvature, and that 90 per cent of ulcers in the duodenum are in the first inch of the bowel; that 25 per cent. of calloused ulcers are in the stomach and 75 per cent. in the duodenum, and that gastric ulcer is multiple in about 6 per cent.; and that 75 per cent. of gall-stones are in women and 25 per cent. in men. In every case of duodenal ulcer there is an excess of free hydrochloric acid at some more active phase of the disease, and this is practically true in stomach ulcer, but to find the excess frequent examinations must be made at different stages of the trouble. In every case of duodenal ulcer, and in all or nearly all cases of stomach ulcer, free or occult blood will be vomited, or found in the feces if the examinations are repeatedly and correctly made. Dr. Craven Moore of Manchester, one of the most painstaking pathologists in England, reports that in a long series of cases in which operation was performed for duodenal ulcer he found in every case an excess of acid, and occult blood in the feces. While ulcer in the pyloric canal of Jonnesco is relatively infrequent, I recently found in two cases in which I operated open perforation just proximal to the pyloric vein.

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RESULTS WITH TUBERCULIN (DIXON'S) IN ADVANCED CHRONIC AMBULATORY TUBERCULOSIS*

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It is unnecessary in connection with the following report to discuss even by way of introduction the broad question of the use of tuberculin in any of its many relations, as for instance its availability in dispensary practice, which is, we believe, fully established. Our purpose is to report briefly the results in a series of ambulatory cases, principally because in these cases there was a peculiarly favorable opportunity to eliminate other causes of improvement, and so to estimate the effect of the tuberculin *per se*.

All those in the series were patients at the State Tuberculosis Dispensary in Philadelphia (No. 21) and had been under observation continuously for a period of several years before being brought together in a special tuberculin class.[1] They had all had a prolonged course of treatment at the State Sanatorium at Mont Alto (there were two previously treated at White Haven), and had returned to their homes on an average of from four to six months before the injections were started, during which time they had all been members of a tuberculosis class meeting every two weeks, in which their progress was carefully followed. They were selected from a group of several hundred patients on account of their physical condition and the nature of their lesions and because the entire course of their disease was known and they were all of sufficient intelligence and persistency of purpose to have been carrying out the most systematic treatment in their homes (which offered suitable facilities for this), and had proved themselves capable by their home-record charts of giving an intelligent account of their symptoms and condition under tuberculin. The number of cases, eleven, was purposely limited in order that they could be studied in greater detail and with the greatest care.

But the cardinal reasons for their selection were that the cases all belonged to the chronic fibroid type, either moderately or far advanced, with little or no fever, and that the patients had already developed a fair resistance to the disease, yet in them there was observable a very gradual deterioration in weight and strength in spite of everything which could be done for them. This was observable by comparison of their condition at considerable intervals of time and was further indicated by the fact that they had all returned to work and been compelled by gradually failing health to give it up.

They had had the advantage of home and sanatorium treatment and a liberal diet, had lived under favorable hygienic conditions consistent with their station in life, and had been under constant supervision of physicians and nurses trained in tuberculosis work. The women were able to attend to their household duties, and the men had resumed their occupation on returning from the sanatorium, but had been compelled to abandon their work on account of physical incapacity which manifested itself sooner or later after resumption of their former occupations. They represented a class of fairly well-nourished individuals, most of them having measurably regained their average weight, and had felt themselves largely restored in health on leaving the sanatorium.

In other words, these patients under a most systematic and adequate regimen (which was in no way altered during the course of tuberculin) had remained either stationary in condition and weight for a long time, but considerably below par in general health, or in some instances they were slowly losing, each month or so showing a reduction in general efficiency and a gradual loss of weight.

It was therefore with a view of estimating the effect of the use of tuberculin on the general health or functional betterment that the injections were undertaken: first, as evidenced by increase in strength as measured by their ability to do more, that is, to return and remain at work; second, as evidenced by increased appetite and assimilation as indicated by increase in weight and the retention of this increase.

The patients kept a daily record of their temperature, which was recorded on a home chart provided for the purpose. Any untoward symptom, as increase in cough, expectoration, insomnia, nervousness, nausea, chills, fever, headache or malaise, was also noted by the patient. Their observations were made twice daily.

The injections were given as a rule once a week. The weight of the patient, the dose of the injection, the pulse, temperature and respiration were recorded immediately before the injection. Analysis of the patient's home chart as to any untoward symptoms resulting from the previous injection was during a succeeding period of five days carefully considered and then recorded on a special chart which was the permanent record of the progress of each case. These charts were kept at the dispensary. Each month the patient was reexamined, recharted and closely questioned as to his physical well-being, and the results were recorded on this permanent record in the patient's own statements. These observations were elicited without any undue suggestion of the examiner. The sputum of each patient when obtainable was examined every month.

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* Read before the College of Physicians of Philadelphia, Dec. 4, 1912.

[1] The practical work on these cases, namely, the giving of the tuberculin injections and the keeping of most complete and laborious records, was carried out by Dr. Hartz.

PREPARATION OF TUBERCULIN [2]

In the *Medical News*, Oct. 19, 1889, attention was called to a morphologic condition of the tubercle bacillus which had never previously been observed. This change consisted in modifications of the organisms which suggested possible involution forms. These forms represented a difference in the degree of virulence which led to the subcutaneous injection of these somewhat devitalized organisms into tuberculous animals with a result of producing different degrees of immunity. Tubercle bacilli were cultivated in a number of tubes to a stage at which few or no ordinary rod-form bacilli could be microscopically found in the cultures, and inoculation into guinea-pigs and rabbits of these atypical and avirulent forms resulted in *a short febrile stage with an enlargement of the lymphatic* nodes located in the neighborhood of the point of injection. This condition, however, soon passed away and the animal recovered, and afterward exhibited a high degree of resistance against the effects of virulent tubercle bacilli. On further experimentation it was shown that by treating a mass of tubercle bacilli with ether and abstracting with a salt solution, a product was obtained that, when injected into the animal economy, changed the condition of the tissue cells and thereby prevented the growth of the tubercle bacilli. The result of the work was first published in the *Medical News* of Jan. 17, 1891, page 87. This work was continued by Dr. Samuel G. Dixon until two methods of preparation had been published from time to time, as improved technic had been adopted resulting in the method hereinafter outlined.

Tubercle Bacilli Extract.—This product is prepared from living organisms. The tubercle bacilli are grown on 4 per cent. glycerin veal broth for a period of from six to eight weeks at a temperature of 37.5 C. They are removed from the incubator and collected on hard filter paper. The filtrate of glycerin broth on which they are grown is discarded. An equal quantity, by weight, of tubercle bacilli of the bovine and human type is used. The mass of organisms is partially dried of the excess of moisture by placing between two sterile filter papers and afterward placed in a dish in the incubator for from twenty-four to forty-eight hours. The dried organisms are then washed in an excess of ether, which is allowed to act until it has removed all of the water and glycerin. The organisms are then subjected to an excess of fresh ether and washed in this for six hours to soften the wax of the bacilli. This fat separates so that it collects at the bottom of the vessel and is removed by a Pasteur pipet. After removal of the second addition of ether, the mass is allowed to dry until no ether odor is perceptible. After the mass of tubercle bacilli have been thoroughly dried, it is ground in a mortar and suspended in physiologic salt solution in the proportion of 1 part of the ground mass to 5 parts of an 8 per cent. salt solution. This suspension is carried in a shaking machine for from eight to ten hours and then allowed to stand for several days at room temperature. It is finally passed through impervious bacteria filters several times, and the filtrate is examined microscopically, bacteriologically and physiologically. Culture tests are made to determine its freedom from contaminating organisms, and guinea-pigs are inoculated to ascertain that it contains no living tubercle bacilli. One c.c. of this extract represents 0.5 gm. of the organisms, and is known as the stock solution from which serial dilutions are made. This solution is sterile, though a preservative of 0.5 per cent. of phenol (carbolic acid) is added to prevent any subsequent contamination.

The tubercle bacilli extract is supplied in syringes in the series of dilutions given in Table 1, so that the doses may be increased as deemed advisable.

TABLE 1.—TUBERCLE BACILLI EXTRACT

Dilution No.	Amount of Extract of Tubercle Bacilli Contained (gm.)	Dilution No.	Amount of Extract of Tubercle Bacilli Contained (gm.)
1	0.001	11	0.1
2	0.01	12	0.11
3	0.02	13	0.12
4	0.03	14	0.13
5	0.04	15	0.14
6	0.05	16	0.15
7	0.06	17	0.16
8	0.07	18	0.17
9	0.08	19	0.18
10	0.09	20	0.19

It is suggested that in ordinary cases, the injection of each dilution be repeated at least five times before changing to the next number, or next stronger dilution.

The physician should bear in mind the general condition of the patient during the administration of this treatment, and the same suggestions as are later outlined for the administration of the suspension of dead tubercle bacilli are applicable to this product. It is to be remembered, however, that the tubercle bacilli extract is toxic and must be used with caution. Small repeated doses injected into normal guinea-pigs cause *no effect on their temperature, weight or condition.*

TECHNIC

The tuberculin used was the tubercle bacilli extract prepared after the method of S. G. Dixon.[2]

Each injection was in a separate aseptic syringe ready for use and put up not unlike diphtheria antitoxin. Ten different dilutions, representing different strengths of tuberculin, were used. As many injections of one number (strength) as were consistent with the progress of the patient were given, usually three, sometimes as high as six, depending on the reaction induced. Every care was taken to avoid even slight reactions, and in this event the usual course was followed of omitting the next injection and repeating the same dose.

The weakest injection represented 0.001 mg. of tuberculin, the strongest 0.09 mg. The injections were given in the interscapular tissues of the back. The part was washed with ether, and as the syringe was in an aseptic state no other preparation was necessary. At no time was there any severe local reaction or any evidence of infection noted at the site of injection.

The dose should be small at the beginning, particularly so with the first six or eight injections until tolerance is established, for if the increase be too rapid, reactions become more frequent and treatment must be discontinued until susceptibility wanes.

The time element is of great importance in the full course of treatment and should never be less than four months, and may with benefit be extended to a year or even longer. Reactions and the progress of the case under treatment must be considered in regard to length of treatment.

When the extract is given in suitable cases at regular intervals varying from periods of five to seven days and in appropriate doses, no harmful effects were noted.

Should a moderate or a severe reaction occur, instead of decreasing the dosage it is better to omit the following one or two injections until the patient's tolerance is raised, and then repeat the same dose.

SUMMARY OF CASE HISTORIES

Case 1.—W. O., carpenter, aged 46, married, American. Diagnosis on admission, May 9, 1908, pulmonary tuberculosis, far advanced; prognosis unfavorable. Consolidation upper and middle lobes right side, with large cavity and heart displaced to right; consolidation left upper lobe. Active symptoms began three years previously with cough, loss of weight and strength. Average weight in health, 150 pounds. Height, 5 feet, 8 inches. Weight on admission to dispensary, 112 pounds. Weight on return from Mont Alto, Dec. 15, 1909, after three months' sojourn, 158 pounds. Patient on return began to cough and spit more and slowly lost weight and strength. He also began to have a little increase of temperature and, though up and about, was unable to work. Took the cure systematically, but did not improve. Weight dropped to 138 pounds.

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[2] Pennsylvania Health Bull., October, 1911.

Treatment and Results.—Patient was under treatment seven months, following return from Mont Alto, before tuberculin injections were begun, July 12, 1910, (weight 138 pounds) and continued for eight months, during which time he received twenty-seven injections. At the end of three months he had gained 10 pounds, and his condition had improved so much that he was permitted to return to work on half time, and two months later to his regular work, eight hours a day. At the conclusion of his course of tuberculin he showed evidence locally of good arrest. He was practically without cough or other symptoms and working steadily.

Nov. 27, 1912: Local condition very fibroid and inactive; few metallic, sticky râles; general condition splendid; patient working at his regular employment right along (hours 7 a. m. to 5:30 p. m.) and during past June, July and August from 7 a. m. to 8 p. m.). Some cough still and little expectoration on rising. Strength good. Weight 146½ pounds, 8½ pounds gain over weight at commencement of tuberculin, twenty-eight months ago.

CASE 2.—G. W., pearl-worker, aged 48, married, American. Diagnosis on admission. Sept. 18, 1909, pulmonary tuberculosis, far advanced; prognosis unfavorable. Consolidation both upper lobes; cavity on left side. Active symptoms began nine years previously with hemoptysis and loss of weight and strength. Average weight in health, 130 pounds. Height, 5 feet, 4¾ inches. Weight on admission to dispensary. 116 pounds. Weight on leaving sanatorium (White Haven), where he had spent fourteen months in 1902. 135 pounds. Patient returned to work for a short while on leaving sanatorium, but has practically done nothing for ten years. He was coughing and spitting a great deal (2 ounces) on admission, was dyspneic, weak and very thin, and was afebrile. Tubercle bacilli present. Weight, 116 pounds.

Treatment and Results.—Tuberculin was begun Oct. 2, 1909, and patient received in all thirty-five injections during a period of twelve months. Two months after first injection he had gained 6 pounds, felt much better, cough and expectoration were greatly decreased in frequency and severity, there was little sputum, and appetite and digestion were much improved. At the end of six months patient weighed 127 pounds, a gain of 11 pounds under tuberculin, and felt so much better that he decided to go to work and spent two months out of the city, during which time he worked regularly and supported himself. He returned, September 15, having gone down to 122 pounds but without the return of any serious symptoms; decided to continue his tuberculin treatment, about which he was enthusiastic. By February, 1911, at the close of tuberculin treatment, he had gained his former weight, 127½ pounds, and one year later, during which time he had been steadily at work, weighed 130 pounds.

Nov. 15, 1912: Patient has been working right along and feeling fine. For past fifteen weeks he has been working at Atlantic City as machine demonstrator (orange juice on Boardwalk) from 9 a. m. to 11:30 p. m. He did not miss a day. Weight is 123½ pounds, 7½ pounds more than at beginning of tuberculin treatment, thirty-seven months ago.

CASE 3.—G. M., foreman, aged 50, married, American. Diagnosis on admission, Oct. 27. 1909, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Infiltration both upper lobes. Active symptoms began three years previously with pneumonia. Average weight in health. 160 pounds. Height, 5 feet, 8¼ inches. Weight on admission to dispensary, 133 pounds. Weight on return from Mont Alto, April, 1909, where he spent six months, 155 pounds. Patient still showed active lesions on both sides on return from Mont Alto and began slowly to deteriorate; was afebrile, but unable to work.

Treatment and Results.—Tuberculin begun July 5, 1910, over a year after return from Mont Alto; weight, 143 pounds. Patient received in all twenty-nine injections in a period of eight months. Three months after first injection patient stated that he felt much better; was stronger, had more endurance and ambition, and had taken a position of watchman, which was the first work he had done for past two years. On completion of injections, patient had returned to his regular work (foreman) and was working steadily and said that he felt better than he had at any time since illness began. Tubercle bacilli were present before and after tuberculin treatment. Physical signs those of an arrested lesion with evidence of chronic plastic pleuritis.

Dec. 5, 1912: Patient is 53 years old and has felt very well, but is out of work and unable to get anything to do. He says he feels better when he is working. He has a very slight cough and expectoration just after getting out of bed in the morning. There are a few small low-pitched crackling râles on left (pleuritic); both upper lobes are fibroid. Weight is 140½ pounds, 2½ pounds less than at beginning of tuberculin thirty months ago.

CASE 4.—A. W. (sister of S. W.), book-binder, aged 21, single. American. Diagnosis on admission, Feb. 1, 1910, pulmonary tuberculosis, moderately advanced. Prognosis doubtful. Infiltration right upper lobe and left apex. Active symptoms began two years previously with hemoptysis. Patient was under treatment at dispensary two months before being sent to Mont Alto, slowly losing ground. Average weight in health. 90 pounds. Height, 5 feet. Weight on admission to dispensary. 86½ pounds, in February, 1910. Weight on return from Mont Alto in July, 1910, where she spent three months, 91¼ pounds. Patient was observed for one month after leaving Mont Alto, during which time she felt weak, tired easily and was unable to work; was afebrile.

Treatment and Results.—Tuberculin was begun July 2, 1910. and patient received a total of thirty-six injections during a period of nine months. After having been on tuberculin for two months, patient felt so much better and stronger that she was permitted to return to work on half time. Her cough had entirely left her. Before the completion of her tuberculin course, she had returned to her regular work and could be seen by the nurse only on Sundays as she was out at her place of employment during the whole of each day. One year after last injection patient states that she feels as well now as at any time previous to her illness, and can do as much work. She is regularly employed daily and has been so right along.

Nov. 27, 1912: Patient feeling fine; no cough or other symptoms; working regularly (hours 8:30 a. m. to 5 p. m.); has not missed a day. Signs of arrested lesion. Weight 89¾ pounds, a loss of 1½ pounds from weight at commencement of tuberculin, twenty-nine months ago.

CASE 5.—S. W. (sister of A. W.), school-girl, aged 12, American. Diagnosis on admission, Feb. 17, 1910, marked tuberculous adenitis, cervical and axillary glands; probable bronchial glands. No pulmonary localization. Active symptoms began with enlargement of cervical and axillary glands and cough one year previously. Average weight in health unknown. Height, 4 feet, 9¼ inches. Weight on admission to dispensary, 75 pounds. This was distinctly a glandular case and the glands on both sides of neck were becoming rapidly larger (as big as hen's eggs), tenser and more tender. There were large glands in both axillae.

Treatment and Results.—Tuberculin was begun March 15, 1910, and patient received thirty injections during a period of eight months. Following the first few injections of tuberculin the glands became perceptibly less tender and after several months were greatly reduced in size and entirely painless; at the conclusion of the treatment the glands were barely palpable. Patient gained steadily in weight from 75½ pounds on first injection to 85 pounds on date of last tuberculin injection; had returned to school and was apparently in normal physical health.

Nov. 27, 1912: Patient is feeling well and has attended school regularly since. Examination of chest is negative. Glands in neck are palpable (about the size of a pea), but give her no trouble. Weight is 91¼ pounds, 15¾ pounds gain over weight at commencement of tuberculin, thirty-two months ago.

Case 6.—Samuel W., tailor, aged 35, married, Russian. Diagnosis on admission, Feb. 1, 1908, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Consolidation right upper lobe. Active symptoms began five years previously with influenza and hemoptysis. Average weight in health, 145 pounds. Height, 5 feet, 6 inches. Weight on admission to dispensary, 129 pounds. Weight on admission to Mont Alto, 117 pounds. Under dispensary treatment for six months, but failing steadily. Weight on return from Mont Alto, December, 1909, where he spent six months, 127 pounds. (Patient suffered while at Mont Alto with chronic gastritis and vomiting after meals.) Under treatment three months following return, but was slowly deteriorating; afebrile but unable to work.

Treatment and Results.—Tuberculin begun March 1, 1910 (weight 117¼ pounds), and patient received in all thirty-eight injections during a period of eleven months. The sputum for one year preceding injections showed the presence of tubercle bacilli. Since tuberculin injections were begun, no bacilli could be demonstrated in the sputum; three months of tuberculin greatly improved patient's condition and he was able to resume his work for the first time in three years. After the last injection the following information was elicited in the patient's own statements: "For past three years I was not able to attend to my work at tailoring and carrying bundles of clothes. Three months after first injection, I commenced to work at my trade and have been doing so for past seven months. I work ten hours daily and feel better in every respect. The cough, expectoration, 'wind,' appetite, digestion and sleep are very much improved, and I become less exhausted at work." Ten months after last injection patient is in good condition; works daily; lesion in the lung shows no activity.

Nov. 27, 1912: Patient working on full time (hours 7:30 a. m. to 5:30 p. m.); supporting family of eight; feeling well and strong. Both upper lobes fibroid; weight 121 pounds, a gain of 3¾ pounds over weight at commencement of tuberculin, thirty-three months ago.

Case 7.—M. D., aged 15, single, American, occupation housework. Diagnosis on admission, July 6, 1908, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Infiltration right upper lobe and left apex. Active symptoms began two years previously with cough, and loss of weight and strength. Average weight in health, 108 pounds. Height, 5 feet, 3 inches. Weight on admission to dispensary, 102 pounds. Weight on leaving sanatorium (White Haven), one month previously, where she had spent five months, 107¾ pounds. Patient was under systematic treatment for seven months, slowly deteriorating, but afebrile; tires easily and unable to work. Weight slowly went down to 99 pounds.

Treatment and Results.—Tuberculin was begun Feb. 1, 1910, and patient received a total of fifteen injections in a period of six months. As she developed a hypersensibility, the injections were given at long intervals. Her weight two months after beginning tuberculin treatment reached 109 pounds, which was approximately retained until the very hot weather of July and August. Weight at last injection in August was 105½ pounds. Patient states that she suffers from the hot weather, but cough and expectoration are must improved and she feels much stronger. She helps her mother about the house. Tubercle bacilli were found previous to the tuberculin, but not during or after the treatment.

Dec. 3, 1912: Patient in fine condition, working regularly in a department store. No cough or other symptoms. Weight, 130 pounds, 31 pounds more than weight at beginning of tuberculin treatment, thirty-four months ago.

Case 8.—W. B., weaver, aged 40, single, English. Diagnosis on admission, Dec. 16, 1908, pulmonary tuberculosis, far advanced; prognosis doubtful. Infiltration upper and middle lobes right side; consolidation with cavitation, left upper lobe. Active symptoms began two years previously with severe hemorrhage. Previous to admission patient had spent three months in tuberculosis wards, Philadelphia General Hospital. He was six months under treatment at dispensary before he was sent to Mont Alto, losing ground steadily. Average weight in health, 130 pounds. Height, 5 feet, 9¼ inches. Weight on admission to dispensary, 110½ pounds in December, 1908. For one year after his return from Mont Alto he was under most systematic treatment. He attempted to return to work but could not stick at it. He was slowly failing; had no appetite, poor digestion and slight fever; cough and expectoration troublesome.

Treatment and Results.—Tuberculin was begun Feb. 15, 1910; patient received thirty-nine injections during a period of twelve months. Four months of tuberculin treatment found the patient with a net gain of 10½ pounds from the time of first injection; cough and expectoration much less and great gain in general health; entirely afebrile. Patient went to work four months after beginning tuberculin, and continued at his work as night watchman throughout entire tuberculin treatment, reporting regularly once a week, except toward the end when his earning capacity having increased and his general health being so much better, he began to consume alcohol in varying amounts, became irregular in his habits and finally was lost sight of. He died April, 1912.

Case 9.—E. S., tailoress, married, Russian. Diagnosis on admission, Jan. 27, 1909, pulmonary tuberculosis, moderately advanced; prognosis fair. Consolidation right upper lobe. Active symptoms began two years previously with attack of influenza and hemorrhage. Average weight in health, 135 pounds. Height, 5 feet, 3½ inches. Weight on admission to dispensary, January, 1909, 114 pounds. Weight after return from Mont Alto, Aug. 25, 1910, where she staid eight months, 141¾ pounds. She returned to work, took cold, and began to lose weight; had some cough and expectoration, slight fever; was unable to continue at work.

Treatment and Results.—Tuberculin begun October 4, 1910; weight, 138 pounds; patient received a total of forty-two injections in a period of twelve months, the treatment having been started at Mont Alto. Patient returned to work (three days a week), Nov. 22, 1910, and full time in December, 1910. Weight on conclusion of tuberculin treatment, five months after return from Mont Alto and on full-time work, 140¼ pounds. Fourteen months after last injection, patient is working regularly daily. Cough and expectoration are much less than formerly; patient is stronger and feels better in every way. Lesion involving right upper lobe is in an arrested stage. Tubercle bacilli were present before and after tuberculin treatment.

Nov. 27, 1912: Patient has been working steadily ever since in tailor-shop, supporting self and two children. She still has some cough and expectoration and râles on right side. Weight is 130 pounds, a loss of 8 pounds over weight at commencement of tuberculin twenty-five months ago.

Case 10.—C. McG., housewife, aged 41, married, Irish. Diagnosis on admission, March 16, 1909, pulmonary tuberculosis, far advanced; prognosis unfavorable. Consolidation upper and middle lobes, right side and left apex. Active symptoms began four years previously with pleurisy. Patient was at White Haven five months previous to admission; returned April, 1908. Average weight in health, 155 pounds. Height, 5 feet, 7 inches. Weight on admission to dispensary, 142½ pounds. Weight on return from Mont Alto in July, 1910, where she spent four months, 145 pounds. Patient was treated one year at dispensary before being sent to Mont Alto, during which time her weight remained stationary and she was afebrile, but suffered with several attacks of blood-spitting. No tuberculin was given during this time.

Treatment and Results.—At Mont Alto patient received a course of eleven injections of tuberculin, was free from blood-spitting and said she felt much improved. She asked to have her tuberculin continued and injections were resumed at dispensary. She received eleven more, or a total of twenty-two injections in eight months. At the end of this course patient weighed 142½ pounds, felt much better and stronger, cough and expectoration were less, and she resumed her work. Six months later patient was in good condition and doing her own housework. Patient died August, 1911.

Case 11.—G. S., ironworker, aged 42, married, American. Diagnosis on admission, Feb. 11, 1909, pulmonary tuberculosis, moderately advanced; prognosis doubtful. Consolidation both upper lobes. Active symptoms began five months previously with cough, hemoptysis and loss of weight. Average weight in health, 160 pounds. Height, 5 feet, 7 inches. Weight on admission to dispensary, 150 pounds. Weight on return from Mont Alto, Aug. 11, 1909, where he spent five months, 163¾ pounds. This case was complicated by chronic tuberculous laryngitis, and the patient did not improve much at the sanatorium. He had much cough and expectoration on return (filled two sputum boxes at night) and was unable to work. Tubercle bacilli were constantly present; no fever.

Treatment and Results.—Tuberculin treatment was begun Feb. 15, 1910, six months after return from Mont Alto. Patient's weight was 157 pounds; he received twelve injections during a period of four months. Patient was much improved in general health, cough and expectoration noticeably decreased, and he felt so well that he insisted on returning to work, securing a position as watchman. One year after last injection patient was working steadily and feeling fine.

Nov. 27, 1912: Patient has been working for some months for Adams Express Company, doing trucking of heavy freight, much heavy lifting (hours from 6:30 p. m. to 7 a. m.), twelve hours of heavy night work. Three weeks ago packing-case slipped and fell on shoulder, breaking his left arm. Patient has been worse since his injury, coughing and spitting more and suffered much pain in hospital. He lost 10 pounds in three weeks; weight previous to accident 150 pounds, a loss of 7 pounds from weight at beginning of tuberculin treatment thirty-nine months ago.

CONCLUSIONS

The conclusions which we feel justified in drawing from a thorough familiarity with the course of health in the cases above described for a long period of time is as follows:

1. These cases were all (with one exception, the glandular case) of an advanced chronic fibroid type, which had under treatment shown a fairly good resistance, but the patients, in spite of everything which could be done for them, were unable to work and slowly deteriorated in health, weight and strength; this deterioration was at least checked in every case while tuberculin was being used.

2. Further, every patient was distinctly improved in health and was able to resume and remain at regular work during or following the course of tuberculin.

3. We recognize the fallacy of attributing too much to any one factor or therapeutic measure in chronic diseases generally, and in tuberculosis particularly. In emphasizing the fact that these patients were so improved and were able to return and continue at work, we do not mean to infer that such results are not seen in chronic advanced tuberculosis untreated by tuberculin; but we do argue that from the previous course of health in these particular cases under most systematic treatment, the tuberculin at least seemed to be the sole added factor responsible for the improvement.

4. The tuberculin apparently cured the patient with glandular tuberculosis.

5. Tubercle bacilli disappeared from the sputum in several of the cases during the course of treatment, but the majority of the patients still showed the presence of tubercle bacilli on the completion of the full course of injections.

6. The local condition in the lungs showed a distinct improvement as evidenced by the disappearance of râles.

7. In advanced chronic tuberculosis, when there is fair resistance and little or no fever, tuberculin is unqualifiedly a valuable therapeutic measure, or at least proved so in the above series.

8. The reactions with Dixon's tuberculin (tubercle bacilli extract) were uniformly mild and without unfavorable influence on the course of treatment.

9. All the different preparations of tuberculin represent an effort to retain the favorable toxins of the bacillus and to eliminate those which are deleterious to the human organism; and we believe that for general use at least, particularly in ambulatory cases, it is safer and better to select a preparation of mild potency and toxicity, and that in the so-called Dixon's fluid we have a safe and effective tuberculin of this type.

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HEMORRHAGE CONTROLLED IN TWO CASES BY LOCAL APPLICATION OF HORSE-SERUM

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For a number of years it has been an accepted procedure to employ serum hypodermatically in hemorrhage due to a diminished tendency of the blood to coagulate, and experience has proved this remedy very effective. Usually horse-serum has been employed in varying quantities and the results have been excellent in hemophilia, purpura, melena neonatorum and in operations associated with a long-continued icterus. Latterly transfusion has been performed, the donor being preferably one of the relatives.

The present opinion is that these serums undoubtedly have the effect of increasing the coagulability of the blood.

The following case-reports are offered as a contribution to bleeding that was controlled by the local application of the serum:

Case 1.—*History.*—The patient, aged 49, gave a history of having had, several years before, intermittent nose-bleed which was cured only after the turbinates had been removed; he had a moderate degree of arteriosclerosis. He had been suffering for some time from an irritable bladder and a cystoscopic examination revealed a cyst at the internal urethral opening; the cyst was cauterized by Dr. Henry Meyer with the operation cystoscope; there was no hemorrhage at the time.

The night of the operation the bladder became very much distended with blood-clots and the bladder could be evacuated only with the greatest difficulty. Bleeding persisted for a week and then became very profuse. When I saw the patient he was much exsanguinated. The bladder reached to the navel and was firm with blood-clots.

Treatment.—A cystotomy was done and the distended bladder was emptied of its coagulated blood; the cystic tumor was found to have been burned away at the previous operation and as a result there was a small bleeding area which was cauterized with the actual cautery; the bladder was then packed with iodoform gauze and a recurrence of the bleeding was not expected. The hemorrhage, however, never ceased for seven days despite the application of various astringents, namely, tincture of iron, alum, epinephrin and antipyrin, all of which were applied to the bleeding area and followed by packing. Horse-serum was also injected. The tissues of the abdominal wall bled as persistently as did the area in the bladder. There was a continuous ooze of bright red blood and the patient's condition was growing exceedingly grave.

At this time Dr. Jellinek suggested that [illegible] serum be applied locally. A flask of hor [illegible] was [illegible] the bladder; the hemorrhage seemed to cease almost at once and from that time on there was no further bleeding.

It seemed warranted to assume that the hemorrhage had been controlled by the local application of the serum.

Case 2.—*History.*—The patient, a woman aged 45, gave a history of jaundice that had been present for three months; the icterus was not very intense although it had been persistent. Coagulation time of the blood was eight minutes. She had an enlarged gall-bladder with no history of pain.

The diagnosis of carcinoma involving the deeper gall-ducts was made.

Treatment.—The patient might have had a preliminary transfusion but the icterus had not been sufficiently intense and I felt that exploration could be safely performed. The gall-bladder was exposed and about 8 ounces of dark green bile of the consistency of tar was removed; no gall-stones were found. A cholecystenterostomy was to be performed when the gall-bladder began to bleed; there had been no curettage of the viscus wall by a sharp spoon; only a dull spoon had been introduced, as the finger could not reach to the bottom of the gall-bladder. Bleeding became excessive and could not be controlled even after five yards of soft iodoform gauze had been packed into the gall-bladder. The hemorrhage became alarming and the patient was given 20 c.c. of horse-serum hypodermatically without any apparent result. Then a flask of horse-serum was poured into the gall-bladder; coagulation was immediate and there was no question in the opinion of those present but that the local application of the serum stopped the bleeding. The gall-bladder was then repacked and bleeding did not recur.

350 Post Street.

A CASE OF POISONING BY LITHIUM

PRESENTING SOME NEW FEATURES *

S. A. CLEAVELAND

CLEVELAND

During an investigation on the action of uric acid under Professor Haskins, I had occasion to take rather large doses of lithium chlorid, and experienced toxic symptoms differing in some respects from the hitherto described phenomena of lithium poisoning.

In the first experiment, 2 gm. of the chlorid were taken in a glass of water after each meal for three meals (about 1 p. m., 9 p. m. and 7 a. m.) and then, after skipping one meal, another dose was taken about 7 p. m., making a total of 8 gm., about 125 grains, in twenty-eight hours. Symptoms showed themselves three or four hours after the first dose, consisting in slight dizziness and fulness in the head. Nothing more was noted after the second dose, which was taken in the evening. Soon after the third dose there was so much blurring of vision that it was impossible to read anything smaller than the largest headlines of a newspaper.

Dizziness and ringing in the ears were quite marked. There were also great general weakness and marked tremors. The fourth dose was taken at night, and the dizziness became so marked that the room seemed to go round all night, and sleep was almost impossible. The next morning the condition approached prostration. The eye symptoms were exaggerated and the dizziness, weakness and tremors were so intense that there was staggering and it was necessary to go to bed. The eye and ear symptoms lasted about a day and a half after the last dose. The weakness and tremors persisted for five days. At no time were there any gastro-intestinal symptoms—there was no abdominal pain, diarrhea or gastric irritation, and the appetite was very good throughout the whole time.

Several months later the experiment was repeated to make certain that the effects were really due to lithium. Only two doses of 2 gm. each were necessary to bring on the dizziness, ringing in the ears and blurring of vision. The general symptoms were much less marked than before, but there was some weakness for a day or so. Again there were no gastro-intestinal effects.

The notable features of these observations are the marked muscular and general prostration; the occurrence of vertigo and eye and ear symptoms resembling those of cinchonism, and the entire absence of gastro-intestinal symptoms.

According to the literature of lithium poisoning, as quoted by Good,[1] the common symptoms consist in marked prostration and gastro-intestinal irritation. The latter was entirely absent in my case, while the striking cinchonism effects do not appear to have been described by any previous reporters; but the doses taken by me (60 to 90 grains per day) were two or three times greater than those which seem to have been taken in the cases reported in the literature.

2196 East Eighty-Seventh Street.

FECAL IMPACTION IN THE ILEUM FOR FIFTY-THREE DAYS, WITH RECOVERY

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The patient, Mr. H. L., whose case (No. 77,911) I report had intestinal obstruction at the age of 60, due to carcinoma of the sigmoid colon, and relieved after seven days by laparotomy and cecostomy; at 62 he had fecal impaction, lasting forty-nine days and relieved by a ride on a jolting lumber-wagon; at 63 he had fecal impaction and accumulation in the ileum, lasting fifty-three days and relieved by lavage of the ileum through the artificial anus; and he died of acute obstruction from prolapse of the cecum through the cecostomy fistula four years after the establishment of the artificial anus.

The patient was one of a family of thirteen children. He was born in England, came to the United States at the age of 23, and lived in New York State during the last sixteen years of his life. He married at the age of 33 and had two children. His occupation was always that of a farmer, and his out-of-door life would undoubtedly account in large part for his great vitality. The family history is negative, except that the patient's mother died at 48 of carcinoma of the breast. The patient's father died at 72, a paternal uncle at 70, a paternal aunt at 90, the maternal grandfather at 75 and the maternal grandmother at 90 years of age.

The patient was never ill and had never had a physician until he was 60 years of age, except that at 23 he accidentally injured both feet with an ax while chopping wood. He used practically no alcoholics. He smoked about 10 cents' worth of tobacco a week in a pipe, but never used cigars or cigarets. He drank one cup of coffee a day up to three years before his death, and tea three times a week. He ate meat in small quantity on an average of once a day all his life; and pepper, vinegar, mustard and other condiments in moderation.

Intestinal Obstruction from Carcinoma of the Sigmoid Colon.—At 60 years of age the patient had intestinal obstruction, for which cathartics and enemas were used for seven days without success. The patient's abdomen was distended, and he was in great pain, but vomited little. He had passed blood by rectum three months previously, but had lost little in weight. Dr. Edgar R. McGuire of Buffalo, who was called in consulta-

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* From the Medical School of Western Reserve University.

[1] Good, C. A.: Am Jour. Med. Sc., February, 1903.

Digital examination of the rectum gave no information of immediate value, beyond the fact that intra-abdominal pressure was increased.

Treatment of the Impaction.—Lavage through the artificial anus was commenced at 8 o'clock in the evening of the day the patient presented himself for treatment, and was continued uninterruptedly for seven hours, during which the patient fell asleep a number of times and experienced no inconvenience except for painful cramps in his left leg.

That the treatment was not altogether without danger was recognized. Great care was exercised in inserting the tube, always well lubricated with petrolatum, and in conducting the lavage so far as possible with the lavage tube *in situ*, lest the bowel should be separated from its attachment to the abdominal wall by any undue violence.

The ileum was greatly dilated by the prolonged fecal accumulation, and its walls undoubtedly weakened by stercoral ulceration. The quantity of water introduced at any one time and the pressure over the abdomen in encouraging the outflow through the tube were carefully regulated.

The lavage of the intestine through the artificial anus was carried out with the patient in the dorsal position, near the right side of the bed and on a Kelly pad. Water was readily passed into the bowel, but could not at first be withdrawn on account of the tube having entered a mass of feces. Many times during the lavage, the tube became clogged with hard fecal masses—seeds of grapes, berries and apples, and undigested portions of string beans. At times it was necessary to remove the tube, although a large-sized colon tube was used, and to strip along it the obstructing masses which it was impossible to dislodge with water under considerable pressure. As the lavage progressed, the tube could be freely passed 10 or 12 inches through the ileocecal orifice into the greatly dilated ileum, the water distending the bowel in advance of the tube. The outflow was often interrupted but usually could readily be restored by withdrawing the tube for a few inches. When the tube was passed directly downward parallel to the median line of the body, it was arrested by the cecum at a depth of about 4 inches.

As the distention was relieved, it was observed that the abdomen was being emptied along a curved line sweeping from the artificial anus into the pelvis, and upward toward the left hypochondrium. Careful pressure along this line accelerated the outflow through the tube, especially when combined with pressure over the dilated cecum and ascending colon. When the abdomen was flaccid and the intestine comparatively empty, the stomach was still distended and was more prominent than at the beginning of treatment. In view of the fact that the stomach would probably empty its contents into the small intestine without difficulty, it was not thought advisable to subject the patient to gastric lavage.

Nearly 60 liters (63 quarts) of warm water were used in the lavage. The washings resulting from the first 18 or 20 liters (19 or 21 quarts) were about as thick as pea purée, of a dark chocolate-brown color and not offensive in odor. The last 40 liters of washings were of the consistency of pea soup. The washings acquired a fecal odor in a few hours of exposure to the air.

The patient was given a full tub bath, and although his night had been so fully occupied, he insisted on dressing himself at his usual hour of 5:30 in the morning, and waited somewhat impatiently for his breakfast. The distention of the abdomen had been so much reduced by the treatment that the patient's vest, the lower part of which could not be buttoned the night before, now hung loosely when buttoned. The patient's appetite improved rapidly, so that by the fifth day he was eating more than 2,000 calories a day.

The Fecal Accumulation.—The mixed washings obtained by lavage of the bowel measured more than 61 (61.750) liters (65 quarts), and weighed more than 62 (62.493) kg. (138 pounds). They therefore had a specific gravity of 1.012, from which the average daily fecal residue might be roughly estimated at 32 gm. (1⅛ ounces) of dry material. A more accurate estimation was reached by drying an average sample, the dry residue being 3 per cent. by weight of the washings. Three per cent. of the total weight of the washings gives 1,874 gm. (4⅛ pounds) of dried fecal residue as the accumulation of fifty-three days. The average daily fecal residue was therefore 35.36 gm. Calculated in the proportion of four parts of moist feces to one part of dried residue (Landois); the fecal accumulation for which the patient sought relief approximated more than 16 pounds. The fecal accumulation might have been expected to be about 7,155 gm., since Voit gives 135 gm. as the average amount of moist feces eliminated daily by a normal man on a mixed diet.

Examination of Feces.—A sample of the washings, carefully examined in the laboratory, contained the fruit-seeds and undigested food remnants already mentioned, and many large crystals of triple phosphate which had the appearance macroscopically of sand. Besides phosphates no other crystals were found. Traces of blood were found, which may have resulted from the ingested meat, but probably originated in stercoral ulcers in the bowel. Gram stains and counts of bacteria in samples from each of the ten jars in which the washings were collected gave an average of 17.5 per cent. of Gram-positive and 82.5 per cent of Gram-negative bacteria present. The reaction was strongly alkaline. There were digestive enzymes present, and the material did not give the biuret test, which would indicate complete digestion or bacterial decomposition of the protein.

ANALYSES OF URINE

	Samples			
	1	2	3	4
Quantity (c.c.)	400	500	900	1,200
Color	Red.	Yellow.	Amber.	Reddish-yellow.
Specific gravity	1.020	1.002	1.003	1.013
Total solids (gm.)	18.64	2.33	6.29	36.34
Acidity (c.c. tenth-normal acid)	71	10	65	110
Urea	10.00	1.50	3.60	16.80
Ammonia (gm. NH_3)	.212	.075	.205	.212
Chlorids (gm. NaCl)	2.80	.10	.00	10.32
Sugar	0	0	0	0
Albumin	0	0	0	0
Bile	0	0	0	0
Blood	0	0	0	0
Indican (Folin scale)	4	0	0	0
Indolacetic acid	Abundant.	Trace.	Trace.	0
Microscopic Findings:				
Crystals	0	0	0	Many calcium oxalates.
Epithelia	Few.	Few.	Few.	Few.
Casts (No. in field)	0-1 Hyaline.	0	0	0

An examination of feces twenty-four days later gave the following result:

Amount of moist sample, 21 gm.; amount of dried residue, 3.37 gm.; color, brown; odor, normal; form, semiliquid; food remnants present; mucus normal in amount; reaction slightly acid; enzymes present; biuret reaction given; blood detected by chemical tests; no crystals present except crystals of fatty acid; some fat globules present; no other microscopic findings of note; bacteriologic examination showed 18 per cent. of Gram-positive and 82 per cent. of Gram-negative bacteria.

Blood Examination.—The patient's hemoglobin was 79 per cent. of normal; red cells 4,750,000 per c.mm., or 95 per cent.; white cells 8,200 per c.mm., or 109 per cent., normal being taken to be 7,500 per c.mm. The red cells were normal in size and shape. Differential count of 270 leukocytes gave 18.5 per cent.

of small lymphocytes, 5.1 per cent. of large lymphocytes and 76.3 per cent. of polymorphonuclear neutrophils.

Urinary Examination.—At the beginning of the lavage of the intestine through the artificial anus, the patient passed red urine (Sample No. 1), two hours later light yellow urine (Sample No. 2), and in the morning amber urine (Sample No. 3). For comparison the analyses of these three specimens are tabulated, with an analysis (Sample No. 4) made twenty-four days later.

RELATION OF URINARY AND FECAL FINDINGS TO SYMPTOMS

The color of normal urine is due principally to the yellow pigment, urochrome. The pronounced red color of the patient's urine was undoubtedly due to the reddish pigment urobilin, which is derived from bile pigments (Maly) and from hematin (Hoppe-Seyler) by reduction. Bile pigments, none of which left the intestine in feces during the impaction, and blood, which may have resulted from stercoral ulceration, or have been derived from the meat ingested, were without doubt the source of the urobilin in the patient's urine.

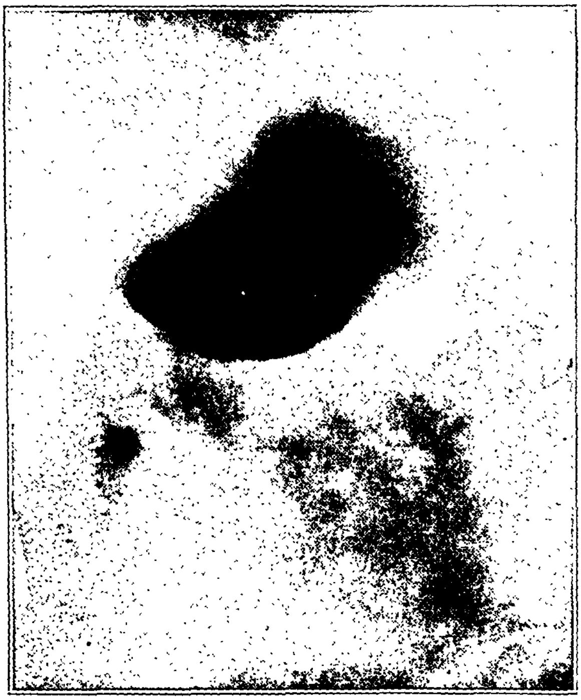

Fig. 1.—The stomach filled with bismuth suspension. The upper marker is placed over the navel, the lower marker at the cecostomy opening. The fine flaky shadows represent bismuth which has just passed out of the stomach and is en route to the small intestine. Note the width of the stomach shadow, indicating the true dilatation.

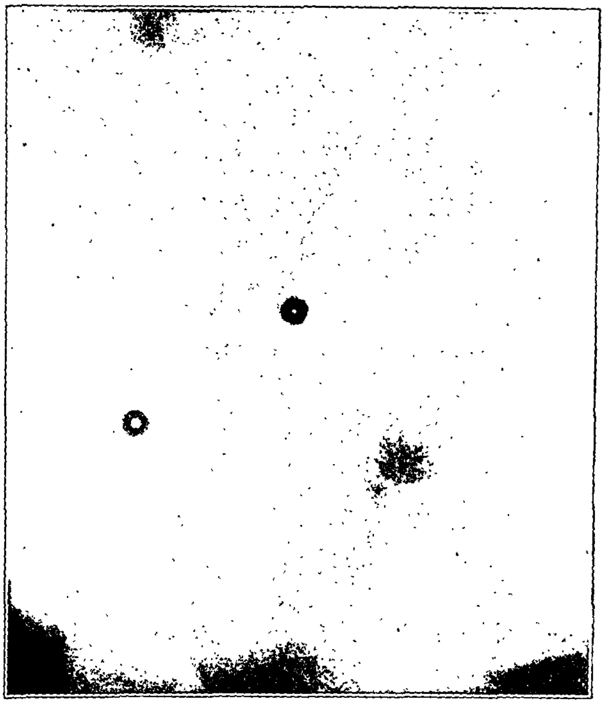

Fig. 2.—The colon injected by rectum. The bismuth column has filled the colon as high as the crest of the ilium, locating the obstruction at this point, beyond which it does not pass. The density of the upper right abdomen represents the liver, which is rotated so that none of it lies in the epigastrium.

Indigo-red, also called urorubin, has been found in the urine in intestinal obstruction, originating from indoxyl-sulphate (indican). This substance might possibly have been found in the urine in this case. No investigation was made to determine its presence.

There was no bilirubin in the urine, from which fact, and from the absence of jaundice, we may safely conclude that the intestinal stasis did not cause biliary obstruction, catarrhal or otherwise.

Indolacetic acid was present in large amount in the urine, but the indican was only slightly increased. The products of putrefaction in the intestine were thus rendered inert by combination with organic acids as well as with sulphates.

The occurrence of indican in small amount in this case is in marked contrast to the large amounts of indican found in acute obstruction of the small intestine. Nothnagel states that in occlusion of the small intestine there is a large, and occasionally enormous, increase of indican in the urine; in occlusion of the colon, on the contrary, the indican is increased only when this lasts a long time and when there is stagnation of intestinal contents above the ileocecal valve.

The great number of crystals of triple phosphate in the feces is a further indication that there had been putrefaction in the intestine. The absence of toxic and reflex symptoms was probably due in large part to the following facts:

1. The intestinal gases were able to find exit by eructation from the stomach and by passage from the artificial anus, as well as by elimination in the expired air.
2. The stasis of food in the small intestine was favorable to complete digestion and absorption of the protein, leaving little for putrefaction.
3. The bacteria of the small intestine were protective in producing substances, such as lactic acid, to inhibit the activity of putrefactive organisms.
4. A more or less constant balance was maintained between production and absorption of toxic substances, and their elimination.

Fluoroscopic and Skiagraphic Examination.—On the day following his arrival, and after his fecal impaction had been relieved, the patient spent the afternoon in the *x*-ray laboratory, where his stomach and small intestine were examined after a bismuth meal, and his colon after bismuth enema by rectum and after bismuth enema through the artificial anus.

The examination of the patient was conducted by Dr. A. J. Read, acting roentgenologist in the absence of Dr. J. T. Case. His findings made clear the changes brought about in the gastro-intestinal tract by the prolonged impaction and confirmed the diagnosis of tumor in the sigmoid colon. The fluoroscopic report will first be given, and then a description of the accompanying illustrations made from the skiagrams.

The heart and lungs were incidentally examined with the screen and were found radiologically normal.

The patient was given his first bismuth meal, consisting of 2½ drams of bismuth oxychlorid in 8 ounces of oriental clotted milk. The bismuth meal entered the stomach in a normal manner, and passed at once to the lower pole, which was about an inch below the level of the umbilicus. The stomach was enormously dilated but was completely empty within four hours.

The fluoroscopic examination was repeated two days later, a larger bismuth meal being given so as to obtain more accurate information in regard to the dilated stomach and small intestine. The meal consisted of 7½ drams of bismuth oxychlorid in 24 ounces of buttermilk. The observations of the previous examination were confirmed, and the lower pole of the stomach was found considerably displaced to the right, the pylorus being about 4 inches to the right of the median line and 3 inches above the level of the umbilicus. The pylorus was found close under the liver, which was rotated into the right lumbar region, the left lobe being in the right hypochondriac region with none of the liver in the epigastrium. Food began passing almost immediately into the small intestine, the loops of which gave a very broad shadow. The food had nearly all passed out of the stomach at the end of seven hours, and a portion of the meal was entering the cecum. There was thus little delay in the passage of the meal to the cecum, in spite of the long overdistention and the greatly dilated condition of the small intestine.

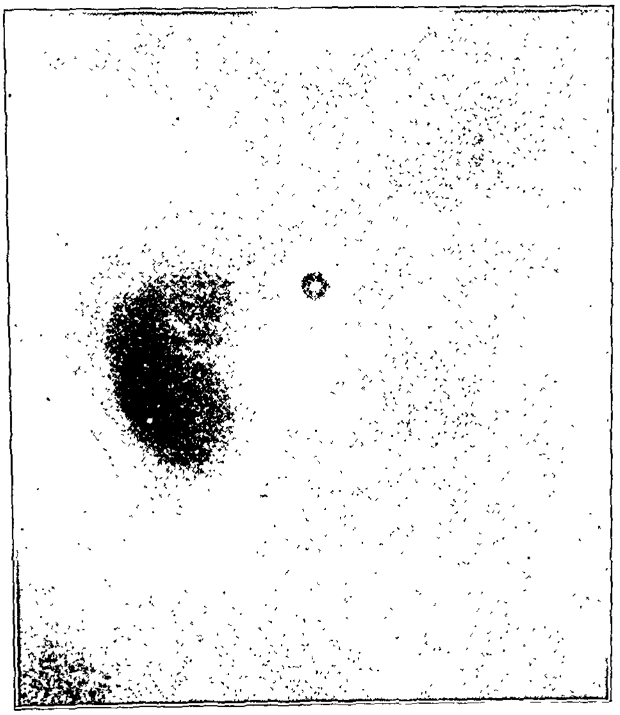

Fig. 3.—The colon is shown injected by rectum and through the cecostomy opening. Note the enlargement of the cecum.

The patient was given a bismuth suspension by rectum, which passed unobstructed through the rectum and sigmoid colon to a point 2 inches below the left iliac crest. At this point its progress was completely interrupted (by the tumor).

Injection of a bismuth enema through the artificial anus showed the cecum and first part of the colon, but the bismuth did not pass beyond the hepatic flexure. The artificial anus was shown by a metal marker to be in the cecum at the level of the ileocecal valve. The cecum, which extended 4 inches lower than the ileocecal junction, and the ascending colon were found greatly dilated.

Indications Against Surgical Operation.—The question of removal of the tumor in the sigmoid colon after relief of the impaction was considered, but it was decided that the patient's condition would not permit of safe recovery from any surgical operation extensive enough to eradicate the tumor and involved tissues. It was believed that there were metastatic growths, although positive evidence was lacking. It was thought that with proper care of the bowels, and management of the artificial anus, the patient would live comfortably.

Subsequent History.—The following history was obtained from the patient's family. On his return to his home in New York State in November, 1911, the patient felt fairly well and was able to walk about the neighborhood; but he was soon confined to the house by the cold weather and by pain in his left thigh. There was weakness and wasting of the muscles of the left thigh; and the pain, which was worse at night, was associated with anesthesia, paresthesia and coldness of the limb. No neurologic examination was made to determine whether the symptoms were due to metastatic growth in the spine or to direct involvement of the lumbar plexus in the tumor mass.

Prolapse of the Cecum Through the Artificial Anus.—The patient was reasonably comfortable until April, 1912, the bowels being easily managed by enemas through the cecostomy opening. April 20 the patient ate a little more than usual, and during the night the cecum prolapsed for about 5 inches through the artificial anus. The prolapsed bowel was caught in the grasp of the tightly contracted cecostomy, and it was found impossible to effect reduction, although I am informed that the examining finger could be passed through the apex of the presenting bowel down to the constricting ring. The artificial anus was completely obstructed and the patient suffered with the symptoms of acute intestinal obstruction—distention with gas and accumulated intestinal contents, intolerable pain, which was with difficulty controlled by opiates, and at the last fecal vomiting. The surgeons of the nearest town, who were called in consultation, decided that the patient was too feeble to undergo the necessary surgical interference and the patient was made as comfortable as possible till his death, April 27, 1912, one week after the prolapse of the cecum and almost four years after the establishment of the artificial anus. No post-mortem examination was made.

CONCLUSIONS

1. Cecostomy may be complicated (a) by contraction of the opening, requiring dilatation from time to time, (b) by fecal impaction, necessitating irrigation through the artificial anus, and (c) by prolapse of the cecum through the cecostomy fistula.

2. Fecal impaction in the ileum in the case herewith reported was due principally to the ingestion of fruit-seeds and imperfectly masticated vegetables such as string beans, which became impacted at the ileocecal orifice.

3. Mere fecal accumulation does not cause urgent symptoms as long as the intestinal gases have opportunity of exit. The distention may produce displacement of the liver and stomach without marked interference with their functions.

4. The urine became dark red from the elimination of bile pigments and hematin reduced to urobilin in the intestine; and the urine contained a few hyaline casts, but no albumin.

5. Roentgen-ray examination of the digestive tract after bismuth meals and bismuth enemas was valuable in estimating the extent of the changes which resulted from the impaction, and in confirming the exact location of the tumor.

6. Treatment to be effective must be persevering and should be conducted with full knowledge of the probable

existence of stercoral ulceration in a greatly distended intestine, and of the possibility of separating the bowel from the colostomy opening by any undue violence.

7. Prolapse of the cecum through the artificial anus may prove fatal unless skilful surgical attention is promptly available.

TREATMENT OF ACUTE DACRYOCYSTITIS *

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The purpose of this paper is chiefly to call attention to a procedure in the treatment of acute dacryocystitis which, although first advocated by Agnew over forty years ago,[1] has been generally overlooked or forgotten. About three years ago I devised the same procedure, unaware at the time that Agnew had preceded me, and ever since have made use of it with increasing satisfaction.[2]

The methods of treating acute dacryocystitis most widely followed are undoubtedly those set forth by Fuchs in his text-book, viz:

> If the inflammation has passed the initial stage, it is idle to endeavor to prevent the formation of an abscess; besides, the methods of syringing, expression and compression, given above, could not be employed on account of the swelling and painfulness of the parts. The only thing to do now is to hasten the formation of the abscess, an object which is best attained by the use of moist and warm compresses. As soon as fluctuation makes itself apparent, we incise the anterior wall of the lacrimal sac, or that portion of skin beneath which the presence of pus can be made out. A lacrimal fistula is thus artificially produced, through which the contents of the abscess and of the lacrimal sac itself are discharged externally. This is kept open by the introduction of a strip of iodoform gauze every day, until all inflammatory symptoms have disappeared and the secretion that exudes has lost its purulent character.

It will be seen that this treatment is based on the assumption that a lacrimal abscess is analogous to any ordinary abscess. This, however, is not the case. In the earliest stage of an ordinary abscess a central cavity is lacking, owing to the fact that the purulent infiltration in the center has not become sufficiently dense to break down the tissue. While the abscess cavity is forming, a reaction is taking place around it, which walls it off and tends to prevent extension of the infection to the surrounding tissues. In the case of a lacrimal abscess, on the other hand, there is a preformed cavity which is already walled off from the surrounding parts by epithelium and connective tissue. As the inflammatory process increases, the cavity becomes more and more distended, and the infection penetrates the wall and forms one or more secondary abscesses in the tissues without, which ultimately open into the lacrimal sac and through the skin. From these considerations it is obvious that, while in the case of an ordinary abscess delay of operation may be advantageous, in the case of a lacrimal abscess it unnecessarily prolongs the process and increases the danger of extension to the surrounding tissues and of the formation of a fistula.

Admitting, then, that the usual temporizing methods in the treatment of acute dacryocystitis are improper, and that the pus should be evacuated as soon as possible, how should this be accomplished? In the very early stages an attempt may be made to press out or wash out the contents of the sac through the canaliculi, but this is seldom successful. This failing, the sac should not be incised through the skin under any circumstances. Objections to the skin incision are that owing to its depth it gives imperfect drainage, that it requires to be "wicked" or frequently reopened, and that it insures a fistula which too often is almost impossible to heal and which interferes with extirpation of the sac later. The Bowman operation of slitting the canaliculus is less objectionable, but it also does not give good drainage, involves unnecessary mutilation, and is difficult to do under the inflammatory conditions prevailing. Superior to either of these procedures is the incision of Agnew. This is made through the conjunctiva between the caruncle and inner commissure of the eyelids. It involves cutting through the least possible depth of tissue, and not only gives adequate drainage but insures constant irrigation of the lacrimal sac by the tears.

The following quotation gives Agnew's views on the treatment of acute dacryocystitis and the description of his incision:

> The common practice is to order leeches and hot poultices over the sac. This is a serious mistake. The first and imperative indication is to make an opening and let the contents out of the sac. . . . If the matter is already showing itself as a yellow or bloody mark beneath the cuticle, your course is simple; cut through the skin at the most depending part of the fluctuating tumor. . . . You have [otherwise] the choice of two other methods: either to slit up the lower canaliculus from punctum to sac and thus evacuate the matter; or, if that be prevented by excessive swelling, to make an incision behind the commissure of the eyelids between it and the caruncle, where you can reach the cavity of the sac with great case, and do nothing to embarrass you in the after-treatment of the case. . . . You may then empty the sac without difficulty and avoid an external wound; nor does your procedure injure the canaliculi, or damage any appendage of the eye or interfere with after-treatment.

Agnew used a Beer's knife in making the incision. I found this unsatisfactory, because in giving it the desired direction, that is, directly inward toward the nose, the blade is almost sure to come in contact with the cornea and thus render the latter liable to infection. While planning a special instrument for this purpose, my assistant, Dr. W. Liebman, suggested the use of a small angular keratome, and this has proved perfectly satisfactory. General anesthesia with ether has been employed in all my cases. An assistant holds the lids apart with two small lid elevators. The angular keratome is then made to enter just in front of the caruncle, is plunged through the sac to the bone, and the incision enlarged by cutting upward and downward. There is always free hemorrhage, but pus does not always gush out until after a probe is introduced. I always immediately probe the lacrimal duct through the incision, using in adults first a No. 12 Theobald probe, then always a No. 14, and finally, if possible, a No. 16. The large probe is left in until the patient begins to regain consciousness, in order, as far as possible, to prevent bleeding from the duct.

For the after-treatment I direct the patient to press
on the sac from time to time and keep the conjunctival
sac free from us w a lotion of boric acid. I have
never irri even immediately after the
operation ecessary,
the tear hot

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* From the Massachusetts Charitable Eye and Ear Infirmary.

[1] Agnew, C. R.: Practical Suggestions for the Treatment of Lacrimal Disease, Am. Pract., January, 1871, p. 1.

[2] For the reference to Agnew's paper I am indebted to Dr. J. E. Weeks, who in his text-book makes brief mention of Agnew's incision.

applications are also unnecessary. On alternate days following the operation the duct is probed through the incision, a probe one or two sizes smaller than the largest probe used at the operation being introduced. The probing is done under cocain anesthesia and is almost painless, owing to the ease with which the probe is passed. The probe is allowed to remain only momentarily. Without probing the incision quickly closes. The result of this treatment is always most gratifying. Improvement begins at once, and in most cases within a week to all external appearances the condition is practically normal.

Agnew does not state that he probed the lacrimal duct through the conjunctival incision either at the time of operation or later. I regard the probing, however, as important. At first I introduced the probe at the operation very cautiously, in the fear that traumatizing the duct might lead to extension of the infection. Experience has shown that this fear is groundless, and now I pass the probes more boldly, using if necessary a moderate amount of force. I have been surprised to find, however, how readily in almost all cases even the largest probes may be passed. It might be supposed that in such an inflammatory condition the duct would immediately close after each probing so that drainage would be prevented, but the ease with which the subsequent probings are performed proves that this is not the case.

In still another particular I have differed from Agnew in the use of his procedure. Agnew employed it only in certain cases. In cases, especially, in which the abscess seemed to be pointing externally, he made an incision only through the skin. On the contrary, I make the incision through the conjunctiva in all cases, even when the abscess has already opened itself through the skin. When, however, there is an abscess immediately beneath the skin, I always in addition make a small incision into it and evacuate the pus, but I am careful not to carry the skin incision into the lacrimal sac. In this way the subsequent formation of a lacrimal fistula is avoided. I have been surprised to find that in certain cases what appeared to be the lacrimal abscess pointing beneath the skin was in reality a separate secondary abscess which did not communicate with the sac.

When I first conceived this operation, it was my expectation that it would convert an acute into a chronic dacryocystitis, at the same time obviating a fistula, so that extirpation of the sac could then readily be done. Much to my surprise I have found that, as far as I could ascertain, in almost all cases the sac has given no further trouble. In only one case, in which the patient discontinued treatment after only two probings, did the patient later return with a mucocele. This was extirpated without difficulty. What the ultimate results have been in all the remaining cases, in each of which there were five or more probings, I cannot say, as many patients have not returned. In the few cases I have seen since, the canaliculi were patent, but no secretion could be expressed from the sacs. In each case, however, with the possible exception of one, the lacrimal duct had again become closed, so that I attribute the good result not to the reestablishing of normal conditions, but to shrinkage of the sac.

233 Charles Street.

In Cases of Obstinate Sores, Think of Syphilis.—Another point about extragenital chancres is that a sore place that does not get well under ordinary treatment ought to make you think of syphilis.—George Pernet in *Clin. Jour.*, London.

A CASE SHOWING RESTORATION OF THE ENTIRE NOSE BY RHINOPLASTY AND BONE TRANSPLANTATION *

WILLIAM WESLEY CARTER, A.M., M.D.

NEW YORK

I am indebted to Dr. Frank E. Miller of this city for the following interesting case:

The patient, a woman aged 32, is married and has a child of 5 who is apparently in good health. She had a stillborn child six years ago.

There is no record of hereditary syphilis in her family, and in other respects her family history is unimportant.

The patient was a strong and healthy girl up to the time she was 16 years old. At this time she had a slight nasal catarrh for which she received treatment. While she was undergoing this treatment she developed a chancre in her nose. This was followed by secondary symptoms. Several months later the throat became sore, the nose swelled up and began to discharge pus, occasional pieces of bone and cartilage coming away. Antisyphilitic treatment was begun, but as it seemed to do no good was soon discontinued. The ulcerative process became much worse, resulting in the destruction of the entire nose within two years of the beginning of the disease. During the active stages of the infection she was exhibited at the New York Academy of Medicine as a case of syphilis of extraordinary malignancy.

The patient applied to me for treatment early in March, 1912. At this time she wore an artificial nose of celluloid, which she stuck on her face with shellac. This artifice succeeded only in making her appearance ludicrous.

Examination.—The nose was absent, there being only a hole in the face where this organ should be. Surrounding this hole was a thick ring of scar tissue, extending beyond the limits of the nasal area on the cheeks and on the upper lip, which was badly scarred and retracted. The hard palate and to a considerable extent the superior maxilla, corresponding to the incisor teeth, were destroyed. The septum and the entire contents of the nasal cavity had completely disappeared, and the walls of this large cavity were covered with the crusts of an extensive ozena.

The patient's general condition was only fair. Wassermann reaction faintly positive.

Operation and Result.—March 20, 1912, I resected 3 inches of the right ninth rib, split it and scraped away the cancellous tissue from the outer half. I transplanted this between the superficial and deep fasciae over the biceps of the left arm. There was little or no reaction following this operation, primary union was obtained, and at the end of ten days the bone seemed thoroughly incorporated into the tissues.

March 30th, I dissected up a flap about a third larger than would be needed to construct a nose. This flap included the bone-graft, and was made large in order to allow for the great amount of contraction which I knew would occur. The upper end of the flap was sutured into the proper position on the face, and the end of the bone-graft was placed under the periosteum over the nasofrontal process. The lower end of the flap remained attached to the arm, which was bound to the head by means of plaster strips and bandages. On the third day after this operation, epithelial skin-grafts were removed from the thigh and placed on the under surface of the flap. April 12 the union between the flap and the face seemed to be complete, so its connection with the arm was severed. The flap immediately became white and cold and later bluish. When this condition had persisted for several hours, I felt certain that the flap would die, so I resorted to an expedient which I believe preserved its vitality. I succeeded in getting a leech to attach itself near the distal end of the flap. The suction of the leech produced a strong flow of blood through the recently formed capillaries at the connection of the flap with the face, dilating them and secur-

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* Case presented at New York Academy of Medicine, Oct. 23, 1912.

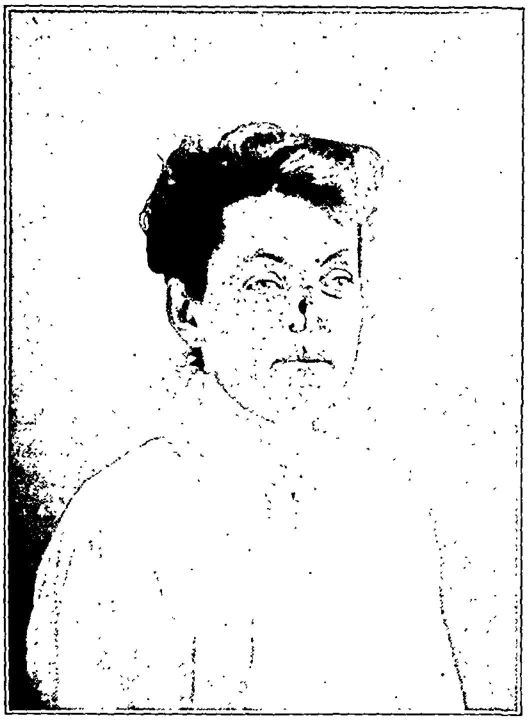

Fig. 1.—Patient before operation, face view.

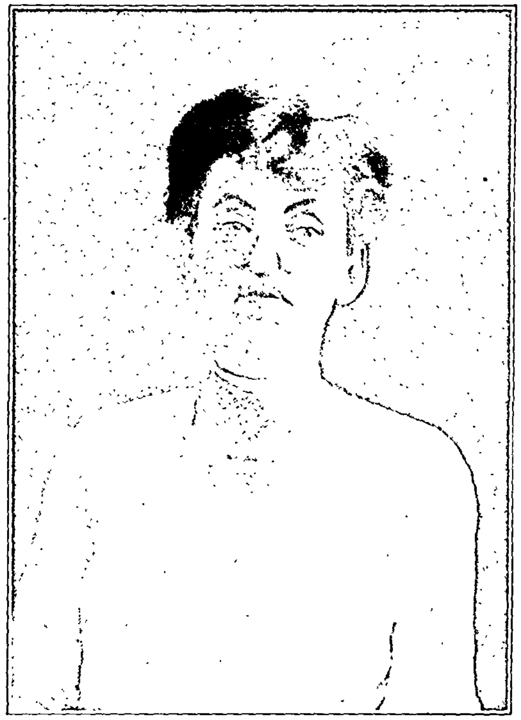

Fig. 3.—Patient after operation. Lip deformity is due to the disease.

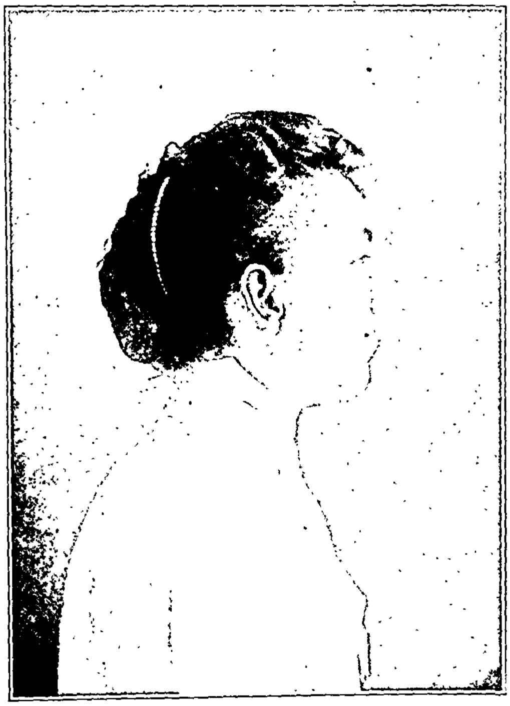

Fig. 2.—Patient before operation, profile.

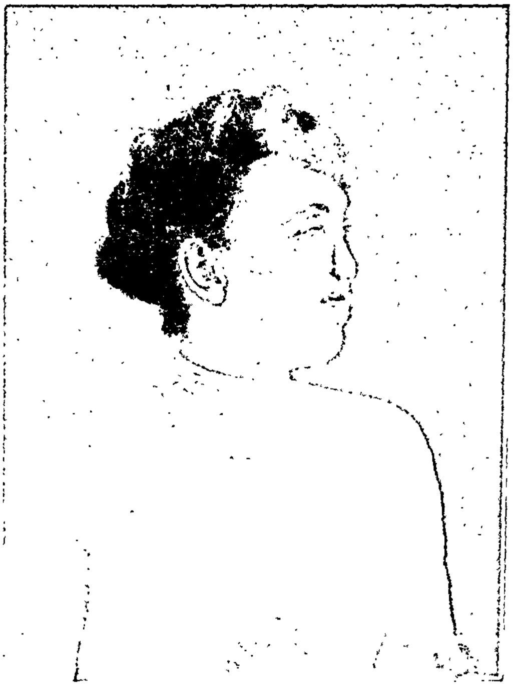

Fig. 4.—Profile [illegible] r oper

bone, and the edges of the defect were pared all about the margins. The left ring-finger was chosen.

Esmarch about arm. Nail removed and scraped, exposing bone beneath. Metacarpophalangeal articulation opened by a posterior longitudinal incision. Posterior extensor tendon divided by transverse incision. Joint opened. Head of metacarpal bone removed. Division of anterior tendons, also lateral ligaments of joint. Finger was then free but united by soft parts and nourished by uninjured digital vessels. Skin removed from whole circumference of last phalanx, and tip of phalanx nipped off with rongeur. Finger then slipped into place, the extremity of the last phalanx going up to the frontal bone under a bridge of undivided soft parts.

No suture was used to attach the phalanx to the frontal bone. A longitudinal denudation was made on each side of the second phalanx, about one-fourth inch wide, to which the edge of the cheek on one side was sutured, and on the other that of the nostril, the defect between the cheek and nostril being filled in by the skin of back of finger. The first phalanx was left unattached, as it was later to be turned backward. Interrupted silkworm gut sutures were used.

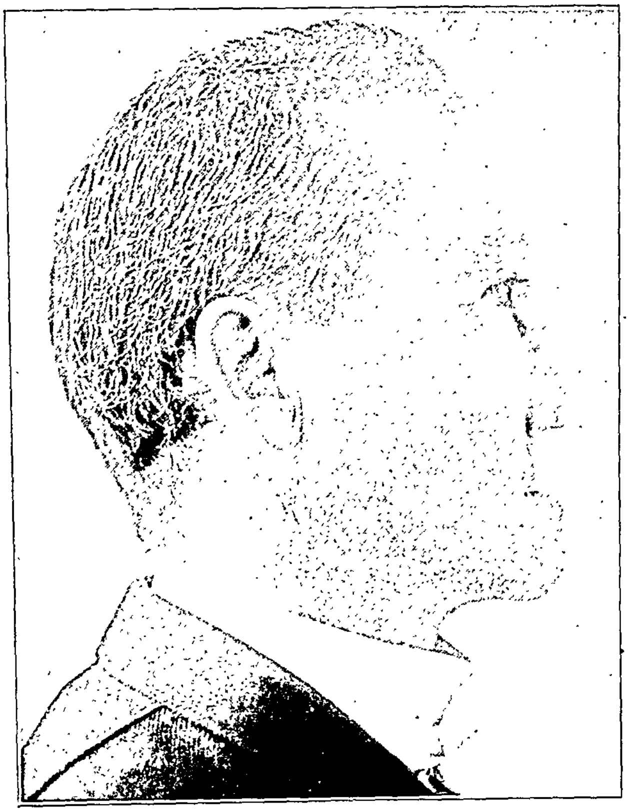

Fig. 6.—Profile of patient two months after operation.

A plaster-of-Paris splint was then applied about head and about arm and chest (Fig. 3) For a couple of days after the operation the pain in the arm was severe, but after that, the arm went asleep, so to speak, and there was comparatively little discomfort.

On the fifteenth day after this operation, one of the digital vessels on one side of the finger was tied under novocain 4 per cent. anesthesia; on the twenty-first day, the finger was amputated through the metacarpophalangeal articulation, using novocain locally. No attempt was made to close the proximal end of finger at this time (Fig. 4). Heat in the shape of hot cloths was applied to the finger for twenty-four hours. Subsequently there was some necrosis of the soft parts on the end of the first phalanx, but not to any great extent.

Eight days later the first phalanx was flexed to a right angle relative to the second phalanx and its tip was sutured in this position to the bone behind, while the soft parts covering it were also turned backward and sewed to the freshened lower border of the nasal defect. Sixteen days later it was necessary to remove most of the first phalanx because of necrosis.

After this operation there was some infection of the finger, the pus from which escaped through several places in the line of the scars. This infection, however, soon ceased. The tendons of the transplanted finger were not disturbed at any time during the various procedures, and are still in place.

The man is not yet handsome, but his appearance is vastly improved. There is no sign now, after three months, of any regrowth of the nail. There is a small opening into the nasal cavity, but not sufficient for respiration. The patient has very little sense of smell. The wound caused by amputating the finger healed by primary union. The tip of the last phalanx seems to be solidly united to the frontal bone. Figures 5 and 6 represent the result after two months. Figure 7 is a skiagram indicating the position of the phalanges.

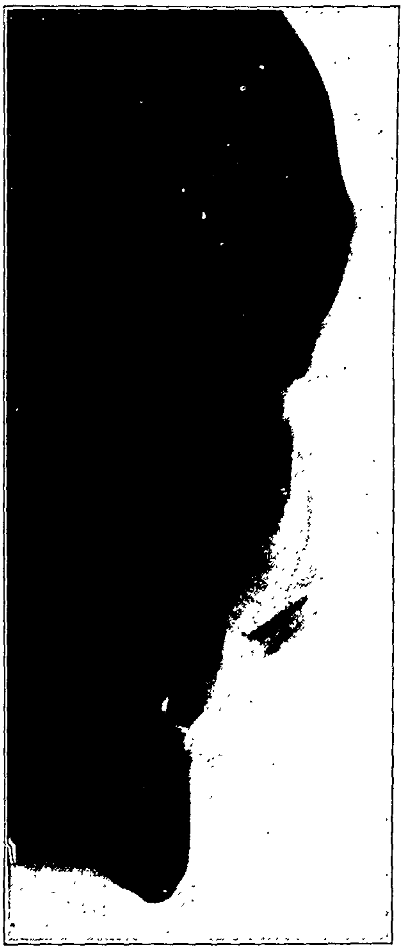

Fig. 7.—Skiagram indicating the position of the phalanges.

32 East Fifty-Third Street.

The Correct Rule of Medical Freedom.—The limit of "medical freedom" is a very plain and natural one. Let the patient take whatever kind of treatment he may wish, but let no treatment be administered by persons who have no knowledge of the fundamental facts of medical science. If the requirement of technical knowledge is fatal to any school of therapeutics, it is time that that particular form of robbery should be done away with. Taking chances with the lives of others for the money there is in it is not a profession to be encouraged.—David Starr Jordan, *Science*.

INTESTINAL OBSTRUCTION

A CLINICAL STUDY OF ONE HUNDRED AND EIGHTY-ONE CASES

ALEXIUS McGLANNAN, M.D.
BALTIMORE

The deductions from the experimental work of Draper,[1] and of Whipple, Stone and Bernheim,[2] on the cause of death in acute intestinal obstruction are almost diametrically opposed to those of Hartwell and Hoguet[3] and are also very different from those of Murphy and Vincent.[4] Clinical experience, however, follows closely the results of Draper, Whipple and Stone. This close relation is well illustrated in Bloodgood's[5] cases of duodenal obstruction following the Billroth II gastrectomy.

All this experimental work concerning the cause of death is interesting, but the important problem for the surgeon is to apply the knowledge thus acquired to the curing of intestinal obstruction. Clinical study can never be so accurate as experimental work, because it is difficult, if not impossible, to determine at operation the completeness of the obstruction, or even its exact seat. Furthermore, the records of the operation are likely to be more definite in describing technical details than in describing the exact nature of the obstruction.

Clinical experience and experimental study agree that the duration of obstruction, its position and the character of the obstructing force are the important points in determining the severity of the symptoms and the time of the fatal result. It is universally agreed that the higher the obstruction, the more severe the symptoms and the more rapidly fatal the disease. Strangulation, or other interference with the circulation, increases the severity of the condition, at the same time adding to the probability of fatal outcome. It follows therefore that early recognition and prompt relief of the obstruction give the best opportunity for the cure.

The problem is to find the clinical picture which will enable us to recognize obstruction in its early curable stage, and to determine what extent of operation should be performed when the condition is complicated by the results of obstruction, namely, toxemia and gangrene.

In the hope of deciding these points I have analyzed the histories of 181 cases of intestinal obstruction from the records of the Johns Hopkins Hospital and of St. Agnes' Hospital. These cases include twenty-seven varieties of obstruction, exclusive of strangulated hernia, classified according to causation and operated on by fifteen surgeons over a period of twenty years. The personal equation is therefore eliminated, although all the operators followed the same general technic.

The course of an obstruction may be divided into three stages: (1) the stage of onset, when the symptoms are due to the arrest of the intestinal current; (2) the stage of compensation, when the gastro-intestinal organs attempt to overcome the obstruction or its results; (3) the stage of sequelae or complications, when the obstruction has caused secondary destructive changes in the bowel or in the body as an entirety. The higher and more complete the obstruction, the less clearly defined will be the symptoms of the different stages. In most cases there will be a merging of the symptoms of the various stages. Vascular injury always intensifies the course of the disease.[6]

SYMPTOMS OF ONSET

The characteristic symptoms of onset are pain, constipation or diarrhea, and vomiting. Abdominal pain, usually paroxysmal or described as "cramps," is the most constant initial symptom. Pain occurred early in all the cases. The pain of obstruction is not relieved by defecation or by vomiting. Opium brings temporary ease, but as the effect of the drug wears off the pain returns.

The association of pain and constipation at the onset occurred in 30 per cent. of the cases. Constipation may precede the pain (10 per cent.). It may come on after an initial bowel movement. The latter condition is frequently present in the cases of strangulated hernia and of intussusception. The constipation resists well-given enemas, or an effectual enema does not give relief from the pain.

Diarrhea and pain with blood and mucus in the stools occur in intussusception and with intestinal tumors.

Vomiting may be the initial symptom, followed by pain and constipation, but the usual sequence is pain, vomiting and constipation. The vomited material may be gastric or duodenal contents. As a rule, however, the material is progressively gastric, bilious and then intestinal. At the onset it is gastric, occurring without regard to the ingestion of food. Lavage does not relieve the symptoms, a distinction from the vomiting of acute dilatation of the stomach. The initial vomiting is reflex, from disturbance of the peritoneal and intestinal innervation. Later the vomiting is a mechanical attempt to rid the body of an overflowing amount of material in the gastro-intestinal tract.

Initial hiccough may replace the vomiting of onset and has the same significance.

Rare symptoms of onset are bloody or mucous stools preceding pain (two cases) and external tumor (three cases). In one of the latter cases the tumor was the projection of an intussusception through a colostomy. The other two were a prolapse of the rectum from straining, and an intussusception of the sigmoid projecting through the anus. Pain with an insatiable desire to defecate was present three times: (1) in the case of an internal hernia strangulating the ileocecal region, (2) a carcinoma of the colon and (3) a sigmoid volvulus.

The effect of lavage, effectual enemas and cathartics on the symptoms of onset was noted in forty-two cases. In twenty-five the remedy did not give relief. With this fact demonstrated, immediate operation was performed ten times with ten recoveries. When the operation was postponed until other symptoms developed, there were three recoveries and ten deaths. Five of the fatal cases had developed gangrene at the time of operation. Two patients in whose histories this fact was noted died before any operation could be performed.

Therefore I feel that whenever a patient suffering from abdominal pain alone, or pain with either vomiting or constipation, or both, is not permanently relieved by lavage or effectual enemas, immediate operation is indicated. A similar result following effectual purgatives also indicates operation, but purgatives should not be administered for the relief of these symptoms to the exclusion of the enema and lavage. If the latter remedies are effectual no purgative will be required. If these do not give relief, the purgative will do harm.

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[1] Draper, John William: Experimental Intestinal Obstruction, The Journal A. M. A., Oct. 21, 1911, p. 1338.

[2] Whipple, Stone and Bernheim: Johns Hopkins Hosp. Bull., June, 1912, p. 159.

[3] Hartwell and Hoguet: Am. Jour. Med. Sc., March, 1912, p. 357.

[4] Murphy and Vincent: Boston Med. and Surg. Jour., Nov. 2, 1911, p. 684.

[5] Bloodgood, Joseph C.: Dilatation of the Duodenum in Relation to Surgery of the Stomach and Colon, The Journal, A. M. A., July 13, 1912, p. 117.

[6] These stages do not indicate periods of time. With a high strangulation the patient will reach the third stage in an hour or two, while one with a low obstipation may remain in the second stage for several days, or even weeks. After a diagnosis of intestinal obstruction is made the attending physician is never justified in allowing the patient to pass into a later stage before advising surgical intervention.

When the well-given enema or purgative is ineffectual, what is the proper procedure? This condition was noted forty-three times. In thirty-eight of these cases the patients were allowed to go on to the secondary stage or to that of complication before operation was performed. Four were operated on during the secondary period, two of whom died. Of thirty-three after complications had developed, eighteen died. One patient died of the complications without any operation.

Under these circumstances, with the patient in the hospital prepared for operation, we wash out the stomach and pour in from 50 to 75 c.c. of castor oil at the end of the lavage; at the same time giving the patient 1/32 grain eserin (physostigmin) salicylate hypodermically. In the presence of mechanical obstruction this treatment intensifies the primary symptoms and hastens the development of the secondary ones to such a degree that the diagnosis becomes easy.

We have noted this occurrence in five cases of postoperative obstruction included in the forty-three mentioned. All the patients were operated on as soon as the diagnosis was made. In all the obstruction was found and four recovered. The fatal case was an obstruction occurring three weeks after enterostomy for the paralyzed bowel of diffuse peritonitis from perforated typhoid ulcer.

SECONDARY SYMPTOMS

The symptoms of the second stage of obstruction are due (1) to the efforts of the intestine to force its contents beyond the point of closure (symptoms of compensation), (2) to the effect of these efforts on the size and shape of the bowel, and (3) to changes due to involvement of the blood-vessels in the mechanism of the obstruction. Whenever the obstructing force interferes with the circulation, the course of the disease becomes fulminating and the development of the complications more rapid.

Among the symptoms of compensation I shall first consider paroxysmal pain (colic), or increasing severity of the pain of the first stage. The cause of the pain in obstruction is mesenteric tugging due to the tonic contraction of the intestinal wall, going on to tetanic rigidity of a segment in which pressure is increased and unusual motor activity stimulated. Thus a vicious circle is established; the distention stimulates the peristalsis, which in turn, by sending more material into the obstructed area, increases the distention and pain, with later development of visible loops and peristalsis.

The pain of strangulation is slightly different from that of obstipation. The onset of strangulation is accompanied by peritoneal shock, and the pain is continuous with paroxysmal exacerbations. Anodynes do not give more than temporary relief in either variety. As toxemia and gangrene develop the pain diminishes or entirely disappears.

The vomiting of the initial stage of obstruction may be reflex from peritoneal shock, and when due to this cause consists of stomach or duodenal contents. The vomiting of the stage of compensation, according to Haquenot, is a running over of the contents of the filled intestine into the stomach. This vomitus consists of intestinal contents, often fecal. The vomited material is thin, usually yellow, green to brown, acrid and extremely disagreeable in taste and odor. The color seems to deepen with the duration of the obstruction, owing to putrefaction of the intestinal contents.

The quantity of intestinal material vomited may be extremely large. The quantity of fluid secreted by the intestine is markedly increased in obstruction. The action of cholin on the autonomic nerve influences governing intestinal secretion points to the possibility of this compound, or some allied substance, being the cause of all the symptoms of intestinal obstruction. It is known that neurin and muscarin, decomposition products of cholin, when injected into animals produce death with symptoms resembling those of paralytic ileus.

Vomiting as a secondary symptom was present in 100 cases, in which there were forty-three deaths. Fecal vomitus was noted in twenty-seven cases, of which eighteen were strangulated obstructions. Fifteen of the twenty-seven patients died.

Vomiting acts as compensation in two ways. 1. The removal of a quantity of intestinal contents relieves the general abdominal as well as the intra-intestinal pressure at the point of obstruction. In this way an opportunity is afforded for the spontaneous release of the bowel from an external obstruction. 2. The vomiting of intestinal contents removes a quantity of highly toxic material, thus delaying or avoiding the development of the stage of toxemia. Lavage has the same value in compensating for the effects of obstruction, and the greater one of being independent of the patient's reflexes. When the return flow from the lavage has become clear, and during its expulsion suddenly becomes discolored again by intestinal contents, regurgitation from the intestine is proved and the diagnosis of obstruction is therefore confirmed. Vomiting or lavage which does not relieve the distention indicates obstruction.

Visible peristalsis or visible stiffened intestinal coils are the most characteristic of the secondary symptoms, and constitute evidence of an endeavor on the part of the musculature to force the intestinal contents beyond the obstruction.

The stiffened coil is a distended area in which the contractions have reached the tetanic stage. Visible peristalsis is due to an extraordinary activity of the peristaltic movement of the bowel produced at this time in order to overcome the obstruction. These movements are vigorous and associated with the presence of the visible stiffened coil. When much of the small intestine is involved in this process, the spastic distended coils may show as a series of parallel ridges—the ladder pattern. These contractures are always associated with pain. Nothnagel states that the intensity of the accompanying pain is a measure of the motor activity of the obstructed bowel. Visible peristalsis without pain is a symptom of severe toxemia.

The distention of this stage is regional and limited to the loop of bowel involved in the obstruction. The later general distention is due to chemical disturbances.[7] Regional distention may show itself as an asymmetric swelling of the abdomen, or the distended loop may be palpable through the abdominal wall, rectum or vagina. This distended coil presents an area of increased resistance to palpation. These changes are due to (1) infiltration of the bowel wall, with accumulation of fluids, and (2) the development of gases in its interior. They are primarily due to disturbance of the blood-supply. Consequently, local distention or a palpable distended coil (von Wahl's sign) is a symptom of strangulation rather than obstipation. In the latter form of obstruction, because the gases are absorbed as soon as they are formed, no accumulation takes place.

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[7] Draper, John W.: Discussion to article by Bloodgood referred to in Footnote 5.

Distention was present in 100 cases: regional fifty-five, general forty-five.

Tympanites usually accompanied distention. Dulness in the flanks may be present when the colon is obstructed and greatly distended; as a rule, however, this sign indicates free fluid in the peritoneal cavity. Liver dulness may be diminished, pushed up or obliterated by great local or general distention. As a late symptom this may indicate perforation.

Local tenderness may be from a local peritonitis or may be the soreness which is common in muscle that has been spasmodically contracted for any considerable length of time. The local peritonitis marks the passage of infective or irritating material through the distended wall of the bowel. This is, therefore, a symptom of the beginning of the complications or sequelae to be considered in the next group. This symptom was noted but twenty-five times.

The blood-count in obstruction usually shows a marked leukocytosis. In sixty-two cases the average was 16,000; in but two was it below 5,000, and in seven others below 10,000. The highest was 46,000 in a case of sigmoid volvulus.

The blood-pressure falls with the onset of symptoms and becomes markedly lowered as toxemia develops.

As to the effect of enemas, lavage and purgatives on symptoms of the second stage: What has been said concerning purgatives in the first stage must be emphasized when speaking of their use in the second stage. No purgative should be given in the second stage of obstruction unless the patient is in a hospital prepared for immediate operation, should the purge prove ineffectual or intensify the symptoms. Leakage through distended bowel, actual rupture, gangrene and other serious complications or sequelae are likely to follow the violent reaction of strong purgatives.

When a well-given enema does not move the bowels, or when the movement from an enema does not relieve the symptoms, immediate operation is indicated. The latter was noted thirty-nine times in the history of the second stage. Immediate operation was performed on eighteen patients, all of whom recovered. A delayed operation was performed on twenty-one, eleven of whom died, three having gangrene at operation.

The diagnostic value of lavage has been noted in discussing the vomiting of this stage. Regurgitation of intestinal contents into the washed stomach was observed in six cases, all included in the before-mentioned statistics.

Ineffectiveness of enema or purgative was noted thirty-eight times. Four patients were immediately operated on, and two of these died, one from toxemia, the other of acute dilatation of the stomach. All the other patients when operated on showed some form of complication or sequel. Sixteen died and eighteen recovered.

SYMPTOMS OF THE THIRD STAGE

The conditions of the third stage are toxemia, gangrene, peritonitis and alteration of kidney function.

The symptoms of toxemia are increase in pulse and respiration rate, with falling blood-pressure, cyanosis with or without clammy skin, and great prostration. The mental condition varies from noisy delirium to unconsciousness. Often there is a subjective sense of well-being, contrasting greatly with the objective signs, fecal vomiting, or distended abdomen, in which violent peristaltic action is visible. The association of visible peristalsis with absence of pain is characteristic of a very severe toxemia. There were eighty-two cases of toxemia in this series; thirty of these patients recovered.

Gangrene is often an early complication, when strangulation is present. When associated with toxemia it is a late development, and is due to secondary vascular changes in the distended loop of bowel, or to a gradually developing and limited mesenteric thrombosis at the site of strangulation.

The development of gangrene is accompanied by collapse, and often sudden and severe increase of pain, although later the pain is diminished. As a result of leakage peritonitis ensues and with its spread comes movable dulness in the flanks and obliteration of liver dulness. Gangrene was present in twenty-five cases, fifteen of which were fatal.

The peritonitis may be (1) general, from rupture of a large area of gangrenous bowel, with extensive pouring out of intestinal contents; (2) general, the reaction to bacterial or toxic invasion through the altered wall of the intestine; (3) local, reaction to punctate extravasations from the obstructed coil; (4) diffuse, from extension of the last variety. The first two forms are uniformly fatal, most often before the symptoms of obstruction have passed the second stage. The local and diffuse varieties are likely to be complicated by the toxemia of obstruction, and therefore most often result fatally. Four such cases occurred in this series and but one patient recovered. This patient was operated on for internal hernia on the fifth day of obstruction, and a small area of peritonitis was found at the neck of the constriction.

Among urinary symptoms are diminution of the quantity of urine, and, in severe cases, actual anuria. Indol, skatol and other aromatic compounds are present. The occurrence of albumin and casts is an almost constant observation in the St. Agnes cases, twenty-five in number. Special care has been taken in this hospital to record the presence or absence of this condition of the urine, and this may account for our seemingly unique observation. The disappearance of casts after the obstruction has been relieved points to a causal relation. The casts seem to be present from the onset, and appear to be a measure of the toxemia. In all the fatal cases, large quantities of casts and albumin were present in the urine.

OPERATIVE TREATMENT

The form of operation required in any given case must depend on the nature of the obstruction, and on the presence or absence of complications. Thus we group the operations performed into three classes: (1) relief of the obstruction, (2) excision of the intestine, (3) removal of intestinal contents through a wound in the bowel.

Relief of the obstruction includes (1) the division of constricting bands; (2) the reduction of an internal hernia or an intussusception; (3) untwisting of a volvulus; (4) removal of a foreign body; (5) short-circuiting the intestinal current around the obstruction.

Excision of intestine includes (1) resection and anastomosis; (2) anastomosis and excision, the ends of the loop being left out or drained by a tube; (3) secondary excision of an extruded loop with or without primary anastomosis.

Operations by means of which the intestinal contents are removed through a wound of the bowel include (1) enterotomy, when the wound is closed at once; (2) primary enterostomy, when the bowel is opened at the original operation; (3) delayed enterostomy when the loop is sutured into the wound and opened after an interval; (4) secondary enterostomy, when the bowel is opened at a succeeding operation.

In order to judge the efficiency of any of these operations, it is necessary that the procedures be compared with regard to the stages of the disease at which the operation is performed. This is the only logical basis for study of the treatment of obstruction, and avoids the confusion of many classes as to (1) causation, (2) differences in position of the obstruction, (3) variations in the completeness of the occlusion. Each of the last-named factors alters the rapidity of development and the duration of the three stages of the disease. Consequently, a study of intestinal obstruction from the point of view of the symptomatology and treatment of these stages balances the relation of the various factors and makes the comparison of operative statistics possible.

Thirty-four patients were treated in the first stage; all recovered. Of these twelve were relieved of their symptoms by enemas and purgatives. The other twenty-two were operated on. In fifteen cases the obstruction was relieved, two by reduction of an ileocecal intussusception, one by reduction of a sigmoid intussusception, ten by division of bands, one by reduction of a hernia in Treitz' fossa, and one by the untwisting of a sigmoid volvulus.

Resection was performed in three cases, once for small-intestine intussusception caused by tumors, once for removal of a strangulated Meckel's diverticulum, and once for a recurrent sigmoid volvulus.

Simple enterostomy was done twice, in both cases as a delayed enterostomy following other abdominal operations: (1) a resection for cancer of the colon, (2) resection for adhesions.

Enterostomy with short-circuiting was done once, a case of small-intestine entanglement following an appendicitis peritonitis. Enterostomy and relief of the obstruction was done once, a postoperative acute angulation of the descending colon, following the removal of a postperitoneal tumor.

Relief of the obstruction therefore is the best operative procedure in cases treated in the first stage. When provision has been made for a delayed enterostomy, this is the best procedure in postoperative obstruction, probably because opening the previously brought-up loop gives no operative shock.

Sixty-five patients were operated on in the second stage. Fifty-five recovered and ten died. Of the recovered cases, eleven patients died as a result of a second operation, or some complication developing later than one week after the original operation.

The operations performed were as follows: relief of the obstruction, thirty cured, four fatal; resection nine, all cured; short-circuiting two, both patients cured; enterostomy and relief of the obstruction, eight cured, two fatal; enterostomy and resection, two cured; enterostomy and anastomosis, one cured; enterostomy and excision, two fatal; simple enterostomy, two cured, two fatal. One patient was relieved by an enema.

Gangrene was present in ten cases; two patients were treated by anastomosis and excision of the gangrenous area, and both died; eight patients recovered; six were resected, one had resection and enterostomy; one, anastomosis and extrusion

Relief of the obstruction, therefore, seems the best operation in the second stage, provided gangrene has not developed. Gangrene in this stage is always the result of strangulation; consequently the local necrosis may come on before the constitutional changes have reached the later stage.

In the presence of gangrene resection is the best operation provided the constitutional symptoms are not pronounced. In the latter event, enterostomy should be added to the resection, or if the condition of the patient is grave the loops may be brought out of the abdomen and packed off with gauze, with an enterostomy above the obstruction.

Of the eleven patients who died of later operations or complications, two died of bronchopneumonia, seventeen and twenty days after relief of the obstruction. Four died of peritonitis eight, eleven, twelve and fifteen days after the original operation; one died of embolism on the twelfth day, one died of general tuberculosis two months after delayed resection of gangrenous bowel, and one died of anuria three days after resection of entangled loops, eight weeks after the enterostomy. Two died on the seventeenth and twenty-first days, respectively; the cause of death cannot be ascertained.

Eighty-two patients were operated on in the third stage, of whom fifty-two died. Of those who recovered five died as the result of complications or after a second operation to remove the cause of obstruction.

Relief of the obstruction was done in 22 per cent. of the cures, 34 per cent. of the fatal cases; enterostomy and relief in 22 per cent. of the cures, 8.5 per cent. of the fatal; simple enterostomy in 45 per cent. of the cures, 32 per cent. of the fatal cases; enterostomy and resection in four cases, two of which resulted in cure and two in death; enterostomy and excision, one cured, seven fatal (15 per cent. of the fatal cases); resection was done in one fatal case and enterostomy and extrusion in two others. One patient was relieved by an enema, and five died without being operated on.

Gangrene was present in fifteen cases, two cured and thirteen fatal. In both the cured cases enterostomy and excision were done, the ends of the divided bowel being drained through a tube.

In the third stage enterostomy should be done either alone or in connection with the other procedures. In non-gangrenous cases enterostomy was done in 77 per cent. of the cured, and in but 41 per cent. of the fatal cases. However subtle may be the exact cause of death in intestinal obstruction, there can be no doubt that the accumulated material in the occluded bowel is extremely toxic and has a considerable influence on the production of toxemia. Therefore it is necessary that in the presence of the symptoms of toxemia, we provide an outlet for this accumulated material by making an opening into the bowel above the obstruction. Whether we shall do more depends on the general condition of the patient, but this removal of toxic material is our first duty, and if neglected robs the patient of about half of his chances for recovery.

114 West Franklin Street.

The Value of Sanitary Consciousness.—As the first step toward spiritual salvation is a recognition of one's sins, so the first step toward sanitary salvation is the recognition by the sick town or county of its sickness. It is characteristic of communities with death-rates far in excess of the average that they do not know that they are sick.—*Bull. North Carolina State Board of Health.*

ILLUMINATING-GAS POISONING *

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I. THE EFFECT OF FORMALDEHYD ON TESTS FOR CARBON MONOXID IN THE BLOOD

In an examination of the blood from the body of a man in which post-mortem showed evidences of poisoning with illuminating gas (especially a brilliant red color of the muscles and blood), the question arose whether formaldehyd, used in embalming the body four days previously, would in any way modify or inhibit the various reactions ordinarily used to demonstrate the presence of carbon monoxid hemoglobin. A careful study of the literature failed to reveal any previous note on this subject, which may well be one of practical interest, especially in cases of a medicolegal nature.

The following preparations were studied by the spectroscope and by means of various chemical tests, which will be discussed individually: (1) the blood of the body examined post mortem after formaldehyd embalming; (2) normal blood; (3) normal blood containing formaldehyd solution; (4) normal blood through which illuminating gas had bubbled for fifteen minutes; (5) normal blood plus formaldehyd solution through which illuminating gas had bubbled for fifteen minutes, and (6) blood from several unembalmed bodies of persons whose deaths were suspected to be caused by poisoning with illuminating gas.

The test suggested by Hoppe-Seyler, namely, boiling the blood, which, if rich in carbon monoxid, yields a brick-red mass, while normal blood becomes brown-black in color, was found to be practicable in most instances. Not sufficient formaldehyd was present in the embalmed body to inhibit the test in any way. In the specimen of normal blood containing formaldehyd, and in that containing illuminating gas and formaldehyd, the blood did not coagulate readily, but boiled as a fluid. After cooling, the normal blood containing formaldehyd appeared as a brown-black fluid, and the normal blood with gas and formaldehyd appeared as a bright red fluid. After several days a thick coagulum settles out and the color distinctions are lost. If suspected specimens are quite old and appear dark and clotted, it is advisable before making the test to dilute them with water so as to make them compare more closely with specimens of normal blood.

In a test suggested by Rubner, four or five volumes of lead acetate solution are added to one volume of carbon monoxid blood and thoroughly shaken for about a minute. Such blood retains its red color; normal blood under similar conditions becomes dark red. This test for immediate use is not so good as the first mentioned. In twenty-four hours, however, the reaction is marked and it increases daily, being visible after several weeks. In the presence of formaldehyd a whitish coagulum forms in the blood in all cases, and the test is not valuable in the presence of much formaldehyd; but with small quantities the differences are more marked.

Blood diluted 1 part to 4 with water and shaken with three times its volume of a 1 per cent. tannic acid solution becomes in twenty-four hours gray when normal, but in the presence of carbon monoxid, carmin red (Wetzel). In this case a precipitate resulted in all specimens, those containing formaldehyd giving a thicker coagulum. This, however, does not in any way interfere with the test. The reaction seems quite a good one in comparison with the others. The results are marked and the color distinctions very easy. The differences persist and become more marked with increasing time.

Another method suggested by Wetzel is as follows: When 10 c.c. of blood are mixed with 15 c.c. of 20 per cent. potassium ferrocyanid solution and 2 c.c. of moderately strong acetic acid (1 volume glacial acetic acid to 2 volumes of water) a solid coagulum gradually results, in normal blood black-brown, but when the blood contains carbon monoxid, bright red. With the quantities suggested, large amounts of material are required, and the tests must be made in large test-tubes or small beakers. The test may also be carried out with relatively smaller quantities. In several instances in which it was employed, however, the results compared very unfavorably with other tests. All formaldehyd-containing mixtures formed very thick coagulums as compared with those containing no formaldehyd. The color distinctions are difficult, and in the various cases which were examined very few bright red coagulums were observed. In most cases the coagulum was light green or purple-black, the color seeming to depend more than anything else on the age and viscosity of the specimen tested.

A modification of this test has been made by Schultz and used in many instances by Wachholz and Sieradzki.[1] In two flasks are placed 2 c.c. of the blood diluted with 8 c.c. of water. To these are added 20 drops of a freshly prepared solution of 10 per cent. potassium ferrocyanid. One tube is shaken once and set aside. The other is shaken repeatedly. After ten minutes from 3 to 5 drops of strong sulphuric acid are added, and following this, 10 c.c. of concentrated tannic acid. In the first tube there will be a red precipitate, in the second a brownish-green. By this method Otto was able to show carbon monoxid in a mummified body eighteen months after death. Here also I found the color distinctions very difficult. The fact that colored solutions are employed in making the test makes it difficult to distinguish variations in the shades of the sediments produced. As in other instances, specimens containing formaldehyd gave thicker, lighter coagulums.

The presence of formaldehyd affects most of all a test suggested by Salkowski which has heretofore received favorable comment as an aid to the recognition of illuminating-gas poisoning. When blood is added to dilute hydrogen sulphid water drop by drop, it produces a bright red precipitate when carbon monoxid is present, otherwise a bright green. It was found that the addition of formaldehyd to normal blood before carrying out the test caused a red precipitate on addition to hydrogen sulphid water which was but a little lighter than that produced by carbon monoxid blood. If no formaldehyd solution is present the test gives easily distinguishable color reactions. But the fact that the presence of formaldehyd causes a normal blood specimen to give a color reaction which is not distinguishable from that of blood containing illuminating gas makes the test of little value in embalmed bodies.

The following quotation from an article by Doremus[2] gives in brief the salient points regarding the examination of carbon monoxid blood by means of the spectroscope:

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* This work has been done under the alumni fellowship of Rush Medical College.

1. Kobert: Lehrbuch der Intoxikationen, 1906, p. 882.
2. Peterson and Haines: Legal Medicine and Toxicology, 1904, ii, 658.

Blood taken from persons or animals poisoned with carbon monoxid shows a characteristic absorption spectrum closely resembling that of oxyhemoglobin. The absorption occurs between the D and E lines chiefly, and is apparent through the appearance of two absorption bands of nearly equal intensity and width. The one near D coincides almost exactly with that of oxyhemoglobin of the same position; the space between it and the band toward F is considerably wider than that between the two bands of oxyhemoglobin spectrum. When more than 27 per cent. of the blood-coloring matter has been saturated by carbon monoxid, the addition to the blood of reducing agents, as a drop or two of a solution of crystallized ammonium sulphid, does not convert the spectrum into one of reduced hemoglobin. The character of this spectrum is that of a single band beginning on the D line and occupying a little more than half the space to the E line.

Dilution of the blood is advisable in order that a clear spectrum may be observed. Whenever carbon monoxid is present, the spectrum may be observed after a little practice, the presence of small amounts of formaldehyd having no inhibiting effect. Formaldehyd in larger quantities acts as a reducing substance, and when the quantity of carbon monoxid gas present is not larger than the percentage given above, the spectrum of reduced hemoglobin may be found. In the case of normal blood, various quantities of formaldehyd produce the various spectrums of oxyhemoglobin, some of which are distinguishable only with great difficulty from the spectrum of carbon monoxid gas blood, until sufficient formaldehyd is added, when the spectrum of reduced hemoglobin is produced. The addition of stronger reducing agents, such as mentioned by Doremus, produces the spectrum of reduced hemoglobin at once.

In view of the fact that formaldehyd was found to modify more or less completely all the chemical tests, and to act as a reducing agent when present in large amounts, so as to interfere also with spectroscopic examinations, it was thought best to make a brief report of these examinations. From my experience with the various tests under these conditions, it would seem that the first test suggested by Wetzel, namely, dilution of the blood 1 part to 4 with water and shaking with three times the volume of 1 per cent. tannic acid, whereby normal blood becomes gray and carbon monoxid blood remains red, is most reliable and trustworthy in the presence of formaldehyd. In case no formaldehyd is present, Rubner's test, the addition of 4 volumes of lead acetate, will be found to yield very satisfactory results. Spectroscopic observations are of little value unless preceded by many observations on the various forms of hemoglobin.

II. PERSISTENCE OF CARBON MONOXID IN THE BLOOD FOR FIVE DAYS

Of unusual interest are the conditions in the following instances of gas poisoning:

The patient, subjected for several hours after exposure to the action of the pulmotor, which has seemed to be of great efficiency in many cases, remained comatose. On admission to the Cook County Hospital, 12 ounces of blood were withdrawn and intravenous transfusion of saline solution was made. During four days normal saline solution by the drop method was given per rectum practically continuously. The patient remained unconscious throughout. The condition gradually grew worse and he died. nearly five days after the exposure to the gas. The following are the salient points in the post-mortem examination which was performed by Dr. E. R. LeCount:

This is the body of a colored adult 163 cm. (5 feet 4 1/6 inches) long and weighing approximately 125 pounds, about 22 years old. The skin in the axillary regions is white but elsewhere it has a peculiar brown color as in Addison's disease. The skeletal muscles are very dark red. The blood in a glass pipet looked at through the sunlight has the color and appearance of turbid claret.

Anatomic Diagnosis.—Hemorrhage into the lungs and visceral pleura, subpleural emphysema of the right lung (following the use of pulmotor?), engorgement of the pial vessels, edema and petechial hemorrhages in the lining of the small bowel, petechial hemorrhages in the lining of the greater antrum of the stomach and into the lining of the duodenum distal to the ampulla of Vater, hyperemia of the kidneys, small hemorrhages and slight edema of the lining of the base of the bladder, slight fatty changes and cloudy swelling of the liver, marked cloudy swelling of the pancreas, hyperplasia of the mesenteric lymph-nodes, fatty changes in the intima of the aorta, absence of union of the two branches of the posterior coronary artery, slight fenestration of the pulmonary valves and of the thebesian valve, fibrous patches of thickening in the anterior mitral leaflet, fibrous adhesions between the hepatic flexure of the colon and the under surface of the right lobe of the liver and between the anterior surface of the right kidney and the same surface of the liver, distention of the seminal vesicles, scars on the chest over the sternum.

Carbon monoxid was demonstrable in the blood by the various tests, chemical and spectroscopic. This is of special interest in view of the fact that many authorities hold that carbon monoxid blood loses its characteristics when exposed to the air, whereas in this case it was found even though the person lived five days after removal from the gas. Ordinarily if the patient lives, the carbon monoxid is eliminated within a few hours. Kobert mentions the report by Wachholz of carbon monoxid in the blood seven days after the exposure to the gas. Few such cases are reported; probably a further study would show many instances of this nature.

I desire to acknowledge my appreciation of the valuable advice rendered me by Prof. Walter S. Haines in the study of these reactions and of the kindly interest shown by Coroner Hoffmann in this work.

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DISPENSARY ABUSE AND ITS ELIMINATION BY ORGANIZATION AND THE APPLICATION OF SOCIOLOGIC METHODS

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There is to-day to a greater or less extent in all of our larger cities discussion of the problem of dispensary abuse. This problem has many sides, and dispensary physicians, outside physicians, dispensary managers and the patients are each and all in turn the abused and the abusers of the others in many ways.

Beyond the individuals involved there are four fundamental factors: (1) the medical needs of our ambulatory poor; (2) the response to this by benevolence through free dispensaries; (3) the demand for material for the teaching clinics, and (4) the hereditary privileges of the family physician. It must be admitted that this need of the poor for medical aid, this zeal of benevolence to give, the attraction to the teacher combined with the absolute necessity for clinics, and the demands of the general practitioners for this same material have not been brought into a working harmony. We must admit also that in this strife some of these poor, whom all aim to help, suffer needlessly and others are led by excessive aid into habits of dependence and pauperism. The fact that there is no corresponding problem with the bedridden poor and that no such persistent and wide-spread criticism of our hospitals has come from physicians, sociologists or others, is significant. There must be something wrong with the organization of the dispensaries; the efficiency of the machinery is not satisfactory.

We must admit not only that dispensary organization has in general failed to give satisfactory or efficient results, but also that there has been no good cause for this failure. Consider again the four factors involved. They will work in harmony more easily than in discord. Benevolence stands ready to provide dispensaries with buildings and equipment in the name of charity. Our medical colleges through the attractiveness of teaching positions have manned these dispensaries with high-grade men that they may dispense the best of medical advice and aid—advice and aid deemed by the patients worth the time, annoyance and publicity of the teaching clinics. The outside medical profession is ready to undertake the care of any patient in possible danger of being pauperized by too much free treatment. Each of the factors therefore can be used to aid all that is worthy in the others, as well as to check unbalanced or unwise activity on the part of any.

(The medical profession mentioned or considered in this paper does not include charlatans with diplomas or without, physicians dishonest in diagnosis or treatment, or those licensed parasites drawing too much support from the profession and too much sustenance from the people—in other words those physicians who without examination of the patient hand out tonic or pills and call "next"; or those physicians devoid of professional character or characteristics who manage to extract the last dollar, and then leave the patient to obtain further treatment wherever he can. These classes, or better this class, for they are one, are, indeed, well known to dispensaries. They are but camp-followers to the profession, counting for nothing in the work and meriting no consideration.)

Better organization and harmony must surely come, for dispensaries are well worthy of a position equal to that of hospitals. Why not? An infected hand pains as sharply as an infected foot. There is equal danger to life; and the family in either case suffers equally: a man cannot work with either. But the one is a dispensary patient, because he does not absolutely need a hospital bed; the other a hospital patient because he cannot come to the dispensary. The trend of medicine toward the prophylactic will necessarily bring the dispensaries into a position of greater importance. The dispensary visit is the first symptom of an invasion into the patient's sociologic family by some disease, physical or social, capable of doing damage. Action then is more efficient and timely than later when this patient has reached the hospital stage. It is surely as good charity to keep a man out of a hospital bed as to care for him after he is in it. Who is there, except the confirmed malingerer, who would not regard it as even a greater service?

The usefulness of dispensaries as a form of organized medical charity in themselves and as hospital adjuncts, and the value of these outpatients to medical education must be considered as established. The great possibilities of such institutions in the development of prophylactic and community medicine are just beginning to be recognized. But on the other hand one cannot commend the organization and efficiency of the majority of our existing general dispensaries. Those able to pay have been admitted too often for treatment. Too many physicians have used their appointments purely for personal gain of various sorts, disregarding all opportunities for service to humanity or to the community. In too many institutions the greed for clinical material has stifled consideration for fellow-practitioner or for the people themselves. In such clinics the patients are but grist for a mill that throws all but pathology out with the chaff. In the unfortunate men, women and children who come to our clinics there surely must be something besides pathology that charity, sociology or public health will find worth the working, even as a by-product, that the gain to society may be the greater. The just protests of the medical profession in active practice against the pauperizing of the people, against the cheapening of medical services and against the invasion into their paying clientele has too often been met with sharp retorts only. Dispensaries must do more good and less harm and soon acquire greater efficiency, or the forces behind modern sociology, scientific benevolence and the agencies working in the interests of public health, will devise and develop a substitute.

Preliminary to all other reforms, dispensaries must recognize the established principle of our better hospitals, that the medical treatment and the sociologic management of patients must be completely separated. The medical staff of dispensaries must have undivided authority to prescribe the medical treatment for the patients placed in their care, but there should be an executive or sociologic chief and assistants in every dispensary having unquestioned authority in all matters pertaining to admissions, and direct control of the efforts to better the social condition of the patient, of his family and of the community. It is true that the executive or sociologic staff of hospitals has not as a whole been so progressive or so thorough as the medical, and there has come in this country the social service movement as a rebuke to our medical institutions for the narrowness of their service and the meagerness of the sociologic effort; but the principle has been established.

By the organization of this executive or sociologic staff having control of admissions and all but medical treatment, a dispensary can through it stop the treatment of those able to pay, end all the evils of the grasping clinic and effectively check exploitation of the dispensary by any physician for personal gain other than that which comes to him through the larger experience. In the dispensaries which have already adopted this principle the standard of the medical staff has gone up, never down. Systematic management and greater kindness to the people have resulted in more return visits and established a confidence that brings better professional control. In such a dispensary the wide-awake clerks and other employees will catch something of the spirit of the trained social worker. In the daily crowds there will be less of the "exasperating foreign stupidity" and fewer of those answers of which the listener understands nothing but the angry or impatient tone, something which is common to all tongues. By the development of this sociologic staff under an executive head, there can come wiser admissions and less pauperizing, justice to the outside general practitioner, and justice and kindness to the patients refused or admitted. In other words, the problem of the so-called "dispensary abuse" can be solved. There can eventually come a practice in the science [illegible] means [illegible]ying prophylactic medici[illegible] an [illegible] in the control of public health and aid to our fellow man through ideal social service; but the discussion of these is outside the scope of this paper.

With the assumption of responsibility there comes to an executive or sociologic manager the problem of these clearly defined, well-understood and just complaints from at least two sources. Both practitioner and social worker have complained about the admission of those who could pay for what they ask to have given them, and social workers have complained over the results of certain refusals. It is the admission and the refusal to admit that have made the trouble, and it is at the admitting desk that the problems must be solved. Institutions have not generally recognized, or at least have not assumed the responsibility for the far-reaching effects of the careless, haphazard work of an admitting officer, and have not taken the necessary action to make this work efficient, just or anything short of a farce. The result is that in every large city of the country the medical profession is discussing dispensary abuse and dispensary methods. To provide a clerk who records name, address, etc., and routinely asks each applicant if he is unable to pay a physician is scarcely better than the old way of allowing the patients to present themselves directly to the physician. It is merely an inefficient beginning. The executive sociologic head of a dispensary and his staff of assistants should be given final authority to decide each application on its merits, and then he can be held responsible for the results.

The next step is to secure better data on which judgment in deciding applications must be based. To this end there have been many suggestions. It is my belief that routine home investigation of every family is not only difficult but also unnecessary. An admitting officer who is in any way competent to hold such a position must read humanity well enough and have sufficient social training to decide on most of the applications promptly. He must have time to obtain the necessary sociologic facts, however. Not over fifteen cases per hour can be handled by one officer. There will be some who are not frankly in one class or another or who seem to be concealing the truth. This must be investigated in the homes. There is no other way. All the possible combinations of human misfortunes and human deficiencies come before the admitting officers. To do justice to them all would require the infinite. No finite judgment can decide all right, but it is incumbent on an institution to bring these people before the best social workers obtainable, workers capable of discerning between fraud and real need and capable of finding out quickly and accurately the real reason why each is an applicant. Not all come because they need medical treatment for which they cannot pay. A loss of faith in the physician then treating them brings more of the doubtful cases than the possibility of avoiding physicians' fees. The European peasant accustomed to the thoroughness of university clinics in the old country has no faith in treatment based on casual inspection. It is to the disgrace of the medical profession that this is the real reason that so many come to our clinics. They made one visit to a physician of their neighborhood and found him wanting. Ignorance of medical ethics and of the purpose of dispensaries, and unreasonable ideas of a physician's powers to cure, each bring their share. The real reason for coming varies with each applicant, and no application can be judged intelligently until this real reason for coming is clear.

In order to reduce still farther the dispensary abuse I offer the following system of graded admissions and graded refusals. It was devised to help every one secure all the medical care needed and to compel every one to pay private physicians for as much of this care as is possible without hardship.

ADMISSIONS

Class A. General admission for treatment in any department until revoked. This class is for those who never in reasonable probability will be able to pay any physician anything.

Class B. Admissions to any department for this sickness only, another sickness requiring another interview with the admitting officer. This class is for those who might under favorable circumstances pay for some medical care, but at the time of admission can pay nothing.

Class C. Admissions for major or special surgery or for any chronic condition for which these people cannot reasonably be expected to pay the ordinary fees for the treatment necessary. These patients are referred to general practitioners for short illnesses of any kind or for minor surgery, and can properly be required to pay for these services.

Class D. Admissions for special examination or consultation only; no treatment given. Many persons who employ or should employ, as the case may be, a general practitioner are not able to pay for *x*-ray examination, Wassermann reactions, vaccines, etc., or for the round of consultation necessary to work out an obscure case in the same thorough way that this physician would work out the case of a patient able to pay all. Medical charity in some form must aid or the patient receive insufficient attention, and the physician through necessity drift into careless work. Dispensaries should stand ready to help this physician and this patient, but to take the entire care of this case is often no real help to either. At the request of this physician the dispensary should make special examination or see in consultation this patient, and then refer him back to this physician for treatment. The outside physician should invariably be treated squarely. The patient has served as interesting clinical material, which is sufficient return to the dispensary. He is paying all he can to the medical profession, and the position of examination without treatment in the minds of these persons is such that they are not by this pauperized. Those admitted to this class are to be investigated as carefully to determine that they are not able to pay for their special examination as the other classes to determine that they are not able to pay for treatment.

Many applicants to dispensaries have been in the care of physicians. They have come because they are not recovering rapidly or because a friend recommends the institution. A clinical consultation in cooperation with this physician reassures the patient, is just to the practitioner and is not open to the criticism of pauperizing. The application of that first principle of medical ethics, which is better known as the Golden Rule, can easily be explained and the applicant given a printed form to take to his physician, which explains the situation and suggests that such a consultation may assist. The report to the physician of the findings in the examination or consultation is, of course, an absolute essential. This same form may be given to applicants without a physician but able to pay a small fee, explaining to them that the dispensary will see them in consultation with a physician only and that they must first arrange with some physician for any possible treatment. These came because of greater faith in the dispensary than in any available physician. This is an undesirable condition, and it is clearly the duty of the dispensary to inspire in this applicant confidence in some member of the profession available to him. To this end suggestions may be made and, if asked, the names and addresses of suitable physicians should be given.

The duty of a dispensary when it receives the application from a patient of a physician practicing any form of quackery is to my mind clear. By their acts these physicians have placed themselves outside of the profession: only the interests of the patient and of society are left to consider, and it is best for both these that all persons be served by honest physicians.

REFUSALS

An application, proper or improper, is always an expression of confidence in the institution. It is therefore clearly the duty of the institution to be courteous and to help the applicant to obtain what he needs in a proper way from proper resources. The curt dismissal of an applicant who hesitates to state that he cannot pay a physician may be as harmful to both this patient and to some physician as would be the admission. It takes but a moment to find out the real reason why each came. The institution has the opportunity to help the patient to secure relief, to help the medical profession by restoring this man to confidence in some physician, to keep him from self-medication and patent preparations, and to help society by keeping one more out of the dependent class. A refusal to admit is too often a rebuff to one who has come because he did not know what else to do or whom to trust. He may then have a few dollars, but without this advice in his blind search for a cure he may not spend them wisely, and later some charity finds him in want. It is then easy to see the opportunity for constructive sociology that was lost, and to complain. The mental attitude of the patient who has lost his trust in the physician of his choice varies from the defensive to the desperate. He knows that the "M.D., Physician and Surgeon" on a sign may stand for much or for little, and may hesitate to risk time and money. If mildly on the defensive, he is liable to turn to "patent medicines" until confidence in some physician is restored. If more worried, he may turn either to an advertised medical institute or to the best-known institution of the city to be treated as an outpatient and, though he may apply at the front office, this leads him to the dispensary. He does not understand why a hospital that treated him for an infected foot last year cannot treat him for an infected hand now.

Experience has led us to use four kinds of refusals:

1. A straight refusal and reference back to the former physician, if an honest one, when there is no good reason for coming even for advice.

2. Applicants who have no regular physician, but who are able to pay one, are given a letter to a physician whom we recommend, and who by location or language seems best fitted to care for this patient.

3. Treatment refused but consultation (Class D) offered, if the family physician wishes it. These applicants are given printed forms to take to their physician for endorsement.

4. There are many applications for some special treatment, as tonsillectomy or refraction, by persons who know that they need the services of a specialist, and yet feel that they cannot afford the fee of such a specialist. School inspection has greatly increased the number of this class. Investigation shows that many of these are really able to pay a small fee for a tonsillectomy, and we have little difficulty in convincing them that they should pay a certain specified amount. A letter is given them to the proper specialist asking him to care for the bearer, who will pay the sum agreed on for such services. Good specialists are perfectly willing to do this as long as the price is just, regardless of the fact that it is less than their usual fee. But the fact that makes this trouble worth the while is that these people really go to the specialists and have the needed work done. We found that oral references and recommendations to specialists without letters were almost useless. Not one in twenty went. They feared either a refusal or a price that would be hardship. With a letter nearly all go.

WORKING OF THE SYSTEM

All of the above classes of admissions and refusals (except Class D) have been in constant use in the dispensary of Lakeside Hospital and Western Reserve University for a year. Class D was planned with the others, but eight months were used in watching the applications to be sure of its reception and usefulness before actually putting it into effect. The results have more than justified the work of the more careful investigating and consideration of each case. The exclusions under Classes C and D and more frequent referring to outside physicians must necessarily reduce the number of dispensary treatments in the community, but the kinder treatment has made friends and our attendance has increased. Complaints from inside and from outside physicians have become few instead of many, and from both sources they have acquired a spirit of cooperation instead of protest. The physicians working in the dispensary have been more contented and satisfied, and have treated the patients in a kinder way and with more consideration. The better treatment of the patients has made them more appreciative, and nominal prices for medicines and supplies have been paid more often and more cheerfully. There has been even a cash return.

SUMMARY

1. The problem of dispensary abuse exists and must be solved.

2. The first step in the solution must be the creation in every dispensary of an executive head having sociologic training and interests. To this head and his assistants must be given final authority to decide admissions, and full control of all the functions of the dispensary excepting the medical treatment of the patients admitted. This executive staff will also develop the opportunities for preventive medicine and general social service.

3. A system of classified or graded admissions and graded or modified refusals will assist in the practical work of meeting the problem.

4. Such a system has been used in one dispensary for a year with satisfactory and pleasing results. It seems to be accomplishing much good, and no objectionable features have appeared.

Cancer and Worry.—One often has occasion to observe the bad effects of mental worry in these patients. Time and again when I find a patient not so well, with more pain or weaker, I learn that there has been some home worry that has caused it —a husband or child ill, or not behaving well, or children uncared for, or the little home broken up, or the sudden cessation of accustomed correspondence. The influence of mind on matter is seen with quite special force and clearness in cases of advanced cancer.—Alfred Pearce Gould in the *Lancet*, London.

A SUGGESTION ON PHENOL AND ICHTHYOL IN EXTERNAL OTITIS

Richard M. Nelson, M.D., Atlanta, Ga.

In the last years of my service at the head of the Eye and Ear Clinic, Colon Hospital, Cristobal, Canal Zone, we were trying both phenolized glycerin and ichthyol in glycerin in certain external and middle-ear diseases and comparing the results obtained, when unexpectedly the supply of fine gauze packing for making tampons ran out. I took some packing from the bottle of 10 per cent. phenolized glycerin, and, squeezing it partly dry, dropped 10 per cent. ichthyol in glycerin on it, and used it in a case which had resisted all previous treatment. The packing was removed in two hours. To my astonishment the tumefaction of the canal was very greatly lessened. I continued the hot 2 per cent. boric irrigations four times a day, with the addition of this tampon left in place two hours daily. The rapidity of improvement was wonderful and recovery complete. Thinking it possibly a coincidence that improvement came about at just this time, I tried the same method in a series of cases during the year ending July, 1912. An eye, ear, nose and throat out-clinic ranging during that time from 1,000 to 1,200 a month, exclusive of the hospital ward patients, gave a more or less adequate opportunity for a thorough trial of this method of treatment.

A mixture containing 5 per cent. each phenol and ichthyol in glycerin was found remarkably efficacious in otitis externa diffusa, myringitis, otitis externa circumscripta ("furuncle of canal"), and in connection with other treatment as good as any ear-drops in acute otitis media; and especially good in otitis externa caused by and complicating chronic suppurative otitis media. One of the greatest nightmares to the conscientious and conservative otologist is this last class of patients, especially those whose hearing is found by careful tests to be still so good that one hesitates to advise radical operative measures, and yet on whom all the methods commonly employed, including the so-called alcohol or dry treatments, have failed completely. I do not wish to be understood as recommending this method to the exclusion of all other methods of treatment, but as a remedy that in my hands has proved a valuable addition to existing methods, and particularly valuable where such methods have been carefully tried and have failed to give relief.

I can find no record of a mixture of phenol and ichthyol in glycerin being used for ear, or any other, disease.

807 Empire Life Building.

TWO CASES OF TONSILLECTOMY

T. G. Orr, M.D., New York
House Surgeon, St. Mary's Free Hospital for Children

The following cases are reported from the medical service of Dr. George M. Swift and the surgical service of Dr. Frank S. Mathews at St. Mary's Free Hospital for Children:

Case 1.—Miss C., aged 20, a nurse in the hospital, acquired a throat infection Oct. 5, 1912. The pharynx and tonsils were much inflamed and there was a small white plug about 2 mm. in diameter in a crypt of the left tonsil. There was no diphtheritic membrane. The temperature was never above 100.5 F., except after antitoxin, when it reached 101. The patient was not very ill at any time and remained in bed only four or five days. A throat culture taken October 6, grew diphtheria bacilli. Two doses of antitoxin were given in the first two weeks. Hexamethylenamin (urotropin) and the usual antiseptic gargles and applications were used. The inflammation disappeared in ten or twelve days and the throat appeared normal, but the cultures remained positive. Between October 5 and November 16 twelve cultures were taken from the tonsils and pharynx and all grew diphtheria bacilli. The organism was isolated and found virulent by inoculating a guinea-pig.

Nov. 16, 1912, Dr. Mathews removed the tonsils by the finger-enucleation method. They were not large but had relatively deep crypts, with no foci of pus or cheesy material. Six days later cultures from the tonsillar fossae and pharynx were negative for diphtheria bacilli. Healing was rapid without any complications. Cultures taken two and four weeks after operation were also negative.

Case 2.—A. O., boy aged 3 years, was admitted to the hospital Sept. 15, 1909. The family and past histories were negative. Two months before admission the parents noticed that the child's abdomen began to increase in size. This slowly increased for the next seven weeks. Ten days before admission the neck became swollen. Then it was noticed that the ankles, legs and thighs were swollen. There was no history of shortness of breath, headaches, vomiting, loss of appetite, disturbance of vision or disturbance of urination. At the time of admission the positive physical findings were general anasarca with liquid in the pleural and peritoneal cavities, and hypertrophied adenoids and tonsils. The urine contained a heavy cloud of albumin and many hyaline and granular casts.

The edema and transudation increased during the next three weeks, and the right pleural and peritoneal cavities were tapped. For the next five and one-half months the serous cavities were never free from liquid. The edema disappeared under restricted liquids, hot packs and diuretics, but soon reappeared. Attempts made to eliminate the source of infection by colon and nasal irrigations and extracting decayed teeth were unsuccessful. During the entire time the urine was never free from albumin. Cultures from the nose and throat grew the *Staphylococcus pyogenes aureus.*

Five times during stay in the hospital the temperature rose to 102 and 103. The last time this occurred an incision was made in the left tonsil and a small quantity of pus evacuated.

March 3, 1910, five and one-half months after the child's admission to the hospital, under very light ether anesthesia, the tonsils and adenoids were removed by Dr. Mathews. The tonsils were large and soft but no pus pockets found. The adenoid mass was very large and showed suppurative infection.

"Two days after operation improvement is very noticeable. Edema and albumin are decreasing. Appetite improving. Child seems to take much more interest in surroundings." Twelve days after operation the following note was made: "Remarkable improvement. Edema has entirely disappeared. Appetite good. Gaining rapidly in strength. Throat and tonsillar fossae clean. Faint trace of albumin in the urine." Fifteen days after operation the patient was up walking about the ward. April 9, 1910, "Discharged. General condition excellent. Throat is clean. No edema. Urine has faint trace of albumin."

Three and one-half months after operation the patient returned to the hospital for observation. At this time he appeared perfectly well. No edema. There was no albumin in the urine, and only a rare hyaline cast could be found.

In Case 1, tonsillectomy was a very efficient method of curing a diphtheria bacillus-carrier. The organisms were undoubtedly harbored in the deep crypts of the tonsils. In Case 2, the exciting cause of the nephritis seemed to be in the adenoids and tonsils. It illustrates well the rôle these tissues may play in diseases of the kidney.

DEAFNESS FOLLOWING THE USE OF SALVARSAN

C. A. Clapp, M.D., Baltimore

The following is a case report of deafness following the use of salvarsan:

A man, white, aged 22, had an initial lesion in April, 1911, for which he was treated by the use of mercury until October 9, when 0.6 gm. salvarsan was given intravenously. November 21, he had a severe attack of giddiness and vomiting with impairment of hearing, which confined him to his bed. He was treated at this time by a recent graduate who considered the case acute indigestion.

When first seen in the office Dec. 12, 1911, the patient still showed marked giddiness which was worse on closing the eyes. The ear-drums were normal; there was no spontaneous nystagmus. The left side of the face was slightly flat, and hearing was reduced to watch at 4 inches in the right ear and contact in the left. Barany's caloric tests showed slight functioning on the right side and none on the left. Patient was given 10 grains of potassium iodid three times a day, but the giddiness became more pronounced, and on December 19 he was put to bed and given pilocarpin hypodermically in increasing doses with hydragogue cathartics for ten days. After this time the giddiness was less.

Jan. 27, 1912, the Wassermann reaction was negative. The patient was kept on the iodid all summer, and on Oct. 16, 1912, his hearing had improved to watch at 3 inches in each ear, with a slight response to the caloric tests. His equilibrium is still bad but his slight facial paralysis seems to have entirely disappeared.

Whether this condition is due to the large dose of arsenic or to the liberation of large quantities of endotoxins, or shows that the medicament has not reached the deeper tissues, the fact remains that the occurrence of deafness is much more frequent since the use of this drug, three cases having occurred in Baltimore to my knowledge within the last two years.

513 North Charles Street.

Special Article

PROGRESS IN MEDICAL EDUCATION [*]

HENRY S. PRITCHETT
President of the Carnegie Foundation for the Advancement of Teaching
NEW YORK CITY

The foundation has continued its work in medical education by the publication during the past summer of Mr. Flexner's carefully prepared study of medical education in England, Germany and France. This forms an almost necessary supplement to the study of medical education in the United States and Canada, published two years earlier. The interest which has been displayed in this last bulletin, not only on this side of the water, but in England and in Germany, has been most gratifying. Following the suggestion of a number of those most actively interested in medical education and medical practice in Germany, an edition of the bulletin will be printed in German.

The comment on this publication from those directly concerned with American medical education has well illustrated the widely separated points of view which now hold among those dealing with this matter. By one critic the defects pointed out in foreign medical schools have been seized on as a proof that American medical teaching is quite abreast of, and even superior to, medical teaching in England and Germany. In another quarter the evident superiority of foreign schools in certain respects, as brought out in the report, has been resented as unpatriotic. These opinions represent, however, only the extremes. The great body of those interested in the matter have been glad to have a comparison of medical teaching on both sides of the Atlantic, written from the point of view of scientific medicine, and aiming to set forth the facts without partisanship. Medical patriotism which is willing to shut its eyes to actual conditions and glorify its own national weaknesses has no place to fill. There are no national boundaries in medicine.

EUROPEAN VS. AMERICAN MEDICAL SCHOOLS

As a matter of fact, admitting the weaknesses which still inhere in most American schools in professorial appointments, in clinical examinations, in hospitals and clinical facilities, and in medical research, the report shows that in the eight or ten stronger American schools of medicine the student has, on the whole, as good an opportunity to learn the theory and practice of modern medicine as does the student of the European schools. This fact is most gratifying and encouraging. But the report brought out at the same time two other facts which cannot be lost sight of, and which are, on the whole, the most significant and important for Americans, whether laymen or practitioners, to apprehend.

The first is that, while European medical schools—for example, those of Germany—are practically comparable in faculties and standards, American schools range from the highest to the lowest conception of medical education and medical ideals. Side by side with schools of the best modern type, which are preparing men in a thorough way for the practice of medicine with a conscientious appreciation of the rights of the public, stand other schools whose function is to get the ill-trained and the unfit into medical practice by the shortest route which the varying laws of our states will permit.

SOME COMPARISONS

Boston offers to medical students at the same time the Harvard Medical School and the Boston College of Physicians and Surgeons; New York presents the medical schools of Columbia and Cornell and at the same time leaves open for the unwary the doors of the Eclectic Medical College; Baltimore presents to the medical student a choice between the Johns Hopkins Medical School and the Maryland Medical College; Chicago invites the candidate for medicine to choose between such institutions as the medical schools of the University of Chicago and of the Northwestern University on the one hand, and utterly unworthy agencies for medical training, like the Bennett Medical College, the Jenner Medical College and the Hering Medical College, on the other; St. Louis presents the newly organized and endowed school of Washington University and the purely commercial enterprise known as the American (Barnes) Medical College. These are not frontier towns. They are our oldest and richest centers of civilization. Yet even in these the state of public opinion, and of legal enactment, and of medical ethics is such that the worst in medical education can flourish alongside the best. The state of California, which contains the medical schools of the state university and of Stanford University, also countenances a group of the worst schools in the country, and recently chartered a "College of Medical Evangelists," where the "subjects of hygiene and sanitation are . . . studied from a biblical standpoint," and the degree of M.D. is given for a course which includes 900 hours of Bible, 540 of the practice of medicine, 250 in general evangelistic field work and 240 in care of the sick. This situation forms the most striking contrast between medical conditions in America and in Europe. To remedy this condition, we need, first of all, the education of public opinion to [illegible]rence [illegible]een medicine as a business and [illegible] a [illegible] public needs yet to lea[illegible] had either on the plane of commercial effort or yet on that of ill-equipped devotion. It needs to learn that the maintenance of commercial and defective agencies for the training of physicians is a blow at public health and a betrayal of public interest; that society can obtain a full supply of men for the medical profession who are educated, well trained and devoted to a high professional ideal. In proportion as the public realizes this it will come forward with the necessary financial support to maintain on a sound basis all the medical schools that the country needs. By some such process must this anomaly of our civilization be dealt with.

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[*] This is the chapter on medical education to be included in President Pritchett's annual report to the board of trustees of the Carnegie Foundation for the Advancement of Teaching. Printed by permission.

NEED OF EDUCATIONAL SINCERITY

A second striking fact brought out by this comparative study of medicine in Europe and America has to do with the matter of educational sincerity. In Europe no university would accept the responsibility of a medical school except with the same obligation of support and with the same educational ideals under which it conducts other departments of instruction. In America alone does one find a college or a university lending the shelter of its name and its charter to a medical school which it neither controls nor supports, and whose ideals of teaching are on an entirely different plane from those maintained in the other departments of its work.

Examples of this sort of relation are so wide-spread that instances will at once occur to any one familiar with the situation. Bowdoin College and the Maine College of Medicine at Portland; the Marquette University and the Milwaukee Medical College; the University of Southern California and the Los Angeles College of Physicians and Surgeons; Loyola University and the Bennett Medical College; Willamette University, Salem, Oregon, and its medical department; the University of Tennessee and its medical school at Memphis; Union University and the Albany Medical School; the Lincoln Memorial University and its medical school at Knoxville; the Texas Christian University and the Fort Worth School of Medicine; Cotner University and its medical school at Lincoln, Neb., are all instances of this sort of relationship.

These medical schools are not entirely comparable. Some of them, like the medical department of Cotner University, are hopelessly bad. Others have come to the better class of commercial medical schools. The Maine Medical School, for example, has showed marked improvement over its situation of two years ago, and a modest sum of money has been raised for its improvement. The University of Tennessee has during the past year for the first time obtained support for its medical school, and the use of this money has made a great improvement in the wretched enterprise which had hitherto constituted its medical department. But all these colleges share in the maintenance of a relation under which they commend to the public schools whose academic standards belong to an entirely different order from that of the work which these colleges directly support and control. Bowdoin College, for example, and its medical department represent totally different educational ideals. When the college invites a student to study Latin, or physics, or literature at Brunswick, it undertakes to give him an education in these subjects quite comparable to that which he could get at Harvard or McGill. But it invites the medical candidate to accept an education which it knows to be utterly inferior to that which he could get at Boston or Montreal. Similarly, Union University and the Albany Medical School, the University of Tennessee and its Memphis department of medicine, belong to different educational worlds. To stand for a high ideal of education in one place and for a low one in another is an artificial and insincere educational program. Nowhere on the continent of Europe does a college or a university deal with medicine on this commercial basis.

What are the reasons which impel colleges — sometimes old and well-known institutions — to maintain so singular a relation?

REASONS FOR ARTIFICIAL RELATIONSHIPS

This question would not be a simple one to answer. Many factors enter into the situation — institutional ambition, desire for power or for numbers, social influence — nearly every motive except an intelligent desire to serve the cause of medical education.

Some of these relations go back to a time when medicine was taught without laboratories. Bowdoin's medical college relation is an old one. An old connection is not always an easy one to drop. In addition, as Bowdoin is in a small town the medical school is generally looked on by the friends of the college as forming a good foothold in Portland. The artificial relation existing between Union University and the Albany Medical School is also one which belongs to a previous epoch in medicine. Originally assumed in order to give the semblance of a university to Union College, it is kept alive at this day by a combination of social relations, institutional ambitions, and of medical politics too complex for an outsider to dissect. On the other hand, the University of Tennessee took over the Memphis School, which now forms its medical department, only two years ago, after a similar weakling which it had fostered at Nashville had died a lingering death. Just what considerations moved the trustees to take this action, outside of the wide-spread desire of state universities to keep hands on all lines of higher educational work, it is difficult to see. If the University of Tennessee has the money to develop a medical school, the evident place to develop it would be at Knoxville in connection with its own departments. The Memphis venture has the air of a political, not an educational, enterprise.

UNFORTUNATE OPTIMISM IN WEAK SCHOOLS

Whatsoever sympathy one finds it possible to exercise toward these medical teaching agencies must go to the men in the medical schools, not to the colleges. So far as the colleges are concerned, the relation is in nearly every case an insincere one. On the other hand, many of the teachers in the medical schools work with genuine devotion and often at great personal sacrifice. To comply with the law, teachers of the underlying sciences are obtained at pitiful salaries. Practitioners in many instances give their time and their means. Unfortunately, devotion is not always wise. To teach poorly a certain number of medical students who otherwise would get a better training elsewhere may call forth admirable devotion, but it is justifiable only when a definite and satisfactory status can be fairly seen in the future. Unfortunately, too, the same optimism which makes every college believe that the education which it gives is somehow superior to that given elsewhere finds a home in the humblest medical school. I have found teachers of medicine whose students lacked almost every facility of laboratory or hospital, who lived in the midst of confusion and neglect, and who nevertheless persuaded themselves that students were better off with them than in well-appointed, clean and sanitary schools. Devotion is a wonderful thing. The world could not move without it. But one can well believe that in America, where devotion is so common, the ability to let alone the thing one cannot do well is a quality even more needed at the present moment.

These two things — the existence side by side of medical schools of the highest and the lowest type, and the anomalous relations between the universities and the medical schools — form the striking points of contrast between medical education in Europe and America as brought out by this report.

STRIKING EXAMPLES OF UNEVENNESS

The unevenness of our situation has recently received striking proof in the city of New York. The newspapers have dealt with two events of widely different character. The medical department of Cornell University has been enabled by a generous benefaction to arrange an alliance with the New York Hospital, in virtue of which it will hereafter control one-half the clinical facilities of this institution. Cornell thus becomes one of the medical schools which, at a comparatively small outlay, possess the equivalent of a university hospital. It remains to be seen whether, in making its appointments, it will cut loose from local traditions and honor men of ability and ideals regardless of where they are found; but in any case the proper relationship and opportunity have been secured. Simultaneously with this encouraging event, a faculty split, recalling the old proprietary days, was reported from the Fordham University Medical School. It appears that this school, by means of a faculty committee, had undertaken to institute certain improvements in order to remain in good standing with the Council on Medical Education of the American Medical Association. These improvements were so obviously necessary that no reputable school should have required pressure from any outside source before making them. Nevertheless, as money was needed to carry them out, the school authorities did not feel themselves in a position to carry out the faculty pledges. In consequence the most progressive members of the faculty withdrew in a body. At this point the characteristic difference between a genuine and a nominal university department appears. *If a dozen professors withdrew from a university department, the entire country would have to be scoured to replace them; but when a dozen medical professors revolt from a proprietary medical school, their places can all be filled next morning from the ranks of the local profession.* And this is what has been done by Fordham University. One realizes sharply the unevenness of our medical teaching when he finds that the American Medical Association still feels it necessary to construe its list so liberally as to include in its Class A weak schools of medicine like those of the Albany Medical College, the Medical School of Maine, the University of Vermont Medical School and the Medical School of the University of Buffalo. Undoubtedly the American Medical Association has done wisely in not going too fast. When one remembers how rapidly this reform has gone forward in six or seven years as the result of the intelligent work of this organization, he has no disposition to criticize the outcome. There is, however, always the danger in any attempt to separate educational institutions into artificially defined groups that the grouping will be assumed to represent more than it can possibly represent. When one realizes that Class A includes at the same time schools of medicine like those of Harvard, of Johns Hopkins and of Western Reserve, and weak schools like those just mentioned, he realizes how short a distance we have traveled toward a uniformly high plane of medical training. This classification is in fact purely provisional. Without question it will be advanced as rapidly as the conditions will warrant. Some of the weak schools now included in Class A will be able to meet the rapidly rising requirements. Others will inevitably drop out. The college or the medical school which expects to remain permanently in this class may well face now *the fact that within a few years Class A will include only true university schools of medicine with paid professors in clinical branches, full laboratory facilities and right hospital relations.*

EVIDENCE OF SUBSTANTIAL PROGRESS

Fortunately there is not lacking concrete evidence of substantial progress. The University of North Carolina, the University of Missouri, the University of Denver, the Central University of Kentucky, Chattanooga University, and, more recently, Washburn College at Topeka, Kan., have frankly abandoned clinical schools which they felt were unnecessary and for whose support they could not hope to provide. The University of Illinois applied to the legislature for an adequate appropriation for its clinical school at Chicago, and when the effort finally failed the university promptly severed its connection with the Chicago school and arranged to confine its medical instruction to the two years which it could give successfully at Urbana. In various directions — the improvement of standards, better teaching, larger support, better hospital relations — the past few years have shown most encouraging progress in the United States and Canada.

Credit for this progress belongs in the first instance to the American Medical Association and its Council on Medical Education. The annual conferences of the Council have been most interesting and fruitful. This is perhaps especially true of the last, to which Mr. Frederick G. Hallett, secretary of the Conjoint Board of the Royal Colleges of Physicians and Surgeons, was invited from London. It has long been plain that the time was ripe for an improvement in the methods of conducting our state examinations. In the past these examinations, wholly in writing, not only made it possible for poor schools to appear successful, but actually compelled good schools to adopt to some extent vicious teaching methods. The English examinations, largely practical in character, have the opposite tendency; and Mr. Hallett's clear exposition proved that such tests are both feasible and necessary in our own states. In addition to its educational conferences, the Council by its inspections, at once judicious and thorough, has established a general consensus of opinion as to the standard which may fairly be required [illegible] this mo[illegible] of an establishment that undertakes to teach medicine. Schools incapable of meeting such requirements are fast disappearing. The total of 166 schools of all kinds existing in the United States and Canada in June, 1904, has in eight years decreased to 117 in 1912. Homeopathic schools, of which there were twenty-two in 1900, have now fallen to ten; eclectic schools from ten to six; the physiomedical schools have entirely disappeared. The total student enrolment, which reached 28,142 in 1904, has now declined to 18,412. As the student bodies of the higher grade schools have steadily advanced in numbers, this considerable decrease has taken place precisely where in the public interest it should take place, namely, in the weaker schools. It is thus obvious that the destruction of one inefficient school does not merely result in increasing the enrolment of another: it actually and absolutely keeps a certain number of unfit men out of the profession.

SMALLER QUANTITY—IMPROVED QUALITY

The changes just mentioned are mainly negative in character; they indicate that there is less of what is bad or undesirable. Meanwhile, positive progress has also taken place. It was pointed out in the fourth bulletin of the Carnegie Foundation that there could be no genuine educational standard as long as medical colleges that were professedly on a high school basis continue to admit students conditioned or on a so-called "equivalent." The Association of American Medical Colleges has now framed its rules so as to exclude from membership all schools adhering to these practices. Meanwhile, thirty medical schools require at least two years of college work for entrance and fifteen more require one. For the time being it is therefore important to make sure that standards are genuine rather than higher, and doubtless the association will look to this end. The internal improvements that have been made in the medical schools which survive are more remarkable and significant than the mere reduction in the number of medical colleges or medical students and graduates since 1904. The erection of new buildings, the construction of new laboratories, the installing of libraries and museums, the noteworthy extension of medical research, the employment of expert teachers, the improvement of the medical curriculum, the lengthening the medical school year from twenty-six weeks in many schools to thirty-four or thirty-six weeks, the raising of entrance requirements and the greater strictness and intelligence in their enforcement, the improvement in the keeping of wards, the improved methods by which a check is kept on the medical student's work, the increased facilities for the student's individual work at the bedside, the closer relations between medical schools and hospitals—all these things constitute a marvelous record of progress in the past seven years. The fact that all schools which aspire even to modest work now require a fair education for admission is perhaps the most significant fact of all. The experience of Europe proves that the requirement of a good education as a preliminary to the medical school exercises a larger influence for good than all other requirements combined. The simple demand that the physician shall be an educated man is the most important step toward a higher plane for the profession. American medical schools are committed to this step.

GREATEST NEED IS ADEQUATE SUPPORT

The question of adequate support for medical education becomes for the next decade a most far reaching and important one. Increased funds of varying amounts have been widely procured for laboratories, hospital extensions, and for the promotion of full time teaching and research. The Education Department of New York has taken advantage of this improvement to announce that in the near future it will cease to recognize schools employing less than six whole-time instructors. The department, furthermore, very wisely refuses to recognize nominal salaries as complying with its conditions. Naturally, in this general effort to procure money in order to escape further criticism waste inevitably occurs: many schools which would do better to emulate the example of those that have closed their doors struggle to imitate those that are destined to survive. Gifts and appropriations of $5,000 and similar sums for improvements are thus all too common. They enable weak establishments to maintain themselves a little longer. In no field of education to-day can wise giving do more than in medicine, but in no field does the intending giver need wiser discrimination.

CONSTRUCTIVE WORK THROUGH PUBLICITY

I venture one word further concerning the work of the Carnegie Foundation in this field of education. Its immediate connection with the subject dates from the publication of the Fourth Bulletin in June, 1910. In cooperation with the educational council of the American Medical Association and the Association of American Medical Colleges, both of which had for some years previously been effectively engaged in the work, it has sought to define the principles to which sound educational organization in medicine should conform at this time, and practically to assist in embodying these principles wherever opportunity offers. For the present these efforts are directed to the elimination of unnecessary schools, to the abrogation of all sectarian privileges, to the improvement of the student body as fast as local conditions permit, and to the replacement of proprietary establishments by adequately equipped and financed university departments, in whose conduct educational and scientific rather than professional motives are emphasized. In particular the foundation has sought to assist positive and constructive effort by frank publications on medical education which aimed to describe actual conditions, and to stimulate by a critical discussion the appreciation of things to be done and those to be avoided. The studies contained in the sixth bulletin, on medical education in Europe, fully sustain the position which the foundation has previously taken, that medical education is primarily an educational, not a professional question; that in the fixing and administration of entrance requirements, the choice of teachers—clinical as well as laboratory—the arrangement of the curriculum, in the relation of the hospital to the medical school, and in the conduct of examinations, the point of view of good teaching is of decisive importance.

It is the purpose of the foundation to pursue its work steadily in the field of medical education. The value of such an agency lies in no small measure in its continuing ability. To follow such a study not for two or five or ten years, but for a generation, is to make a continuing contribution. It is this work which the foundation hopes to do in medicine as well as in other educational fields which it enters.

I shall recommend to the trustees at an early date a study of dental education and dental training, and also a study of the training for pharmacy. There is at present much confusion as to these subjects, both of which are closely related to medicine, though standing on very different bases and demanding qualities of widely differing order. The matter of hospital relations is also one that urgently demands a fair statement of the existing facts before wide-spread improvement can be hoped for.

Therapeutics

THE FALLACY OF HYPOPHOSPHITE TREATMENT

Hypophosphites first began to be used as drugs about the year 1855, and have been used more or less ever since in diseases that cause loss of nutrition. They have been recommended especially in pulmonary tuberculosis with the belief that the phosphorus was of special value in this disease, and that the hypophosphite was the best form in which to administer the phosphorus element.

Phosphorus has long been known to be a stimulant to certain forms of nutrition, and the phosphates have also been credited with therapeutic virtues. In tuberculosis, however, the hypophosphites have been urged as especially specific. What are the reasons and evidences for this opinion?

The action cannot be attributed to the sodium, potassium or magnesium with which the hypophosphites are combined, for other salts of these bases are not credited with similar specific effects. Nor can they be considered as nutrients, for ordinary food contains plenty of these bases. It is also not necessary to discuss the value of iron hypophosphite and manganese hypophosphite, as iron can be obtained in many better ways, and administered, if insufficient, in many better forms; and manganese is probably not necessary to the body.

In the treatment of pulmonary tuberculosis, we come then, supposedly, to a discussion of the most valuable form of hypophosphite, namely, the calcium hypophosphite which has the formula $Ca(H_2PO_2)_2$.

As the calcium which it contains can be administered in many other ways as readily and perhaps more pleasantly, it is a question of the hypophosphite combination and what becomes of it in the body. Unfortunately for the believers in the hypophosphite treatment, there are absolutely no scientific data whatever to show that the hypophosphites have any specific value in the system. It has been shown that they do not oxidize to phosphates, substances which are of value to the system, and which must evidently be obtained from some food or from some other drug even when hypophosphites are administered. It has also been shown that the hypophosphites can almost entirely be recovered unchanged from the urine. They have entered the stomach, been absorbed from the intestines, passed through the liver without any special change except possibly a small loss of iron from the iron combination, and then passed out through the kidneys without having done anything to the nutrition of the body.

If a quinin salt or strychnin is given with the hypophosphites, there will be some bitter tonic effect and some general stimulant action, but this has nothing whatever to do with the question of the value of hypophosphites.

We have stated, and it is easily demonstrable, that calcium can be administered and received into the system in many better ways than by the more or less disagreeable hypophosphite preparations. If it is a question of the value of the phosphorus element in the hypophosphite, for the sake of argument, and in deference to the belief of those who find some specific value in the hypophosphite, it may be stated that about three-sevenths of the weight of the molecular combination of calcium hypophosphite is phosphorus. This would mean that if calcium hypophosphite should break up or oxidize into other combinations, about 0.04 gm. of each 0.1 gm. would be available phosphorus for the formation of phosphates or nucleoproteins.

A person receives approximately 1 per cent. of available phosphorus in every egg that he eats. He receives about 1 per cent. in casein; in other words, in every hundred grams of casein he would receive 1 gm. of phosphorus for the formation of phosphates, nucleoproteins and lecithins. He would receive 0.3 gm. of such available phosphorus in a quart of milk in addition to the liberal supply of additional phosphorus in the form of inorganic phosphates. About one-eighth of an ordinary cream cheese is phosphorus compounds. Put in another way, one glass of milk would equal about 10 gm. of casein, which, 1 per cent. of the casein being phosphorus, would equal about 0.1 gm. of food phosphorus. An eighth of a pound of ordinary American cream cheese contains about 0.1 gm. of available phosphorus. The yolk of one medium-sized egg would contain from 0.08 to 0.1 gm. of such phosphorus. Therefore there can be no reason for administering a doubtful hypophosphite in order to give a patient phosphorus.

The nervous tissues are rich in lecithin, which contains phosphorus, and the various nucleoproteins of the body contain phosphorus. Therefore it is not possible that the tissues during life are really much short of phosphorus, unless many of the ordinary foods are entirely withheld from the patient. Even the value of calcium in the form of such a substance as hypophosphite of calcium is negligible for the tuberculous healing process, as the calcium for that purpose comes from the regular calcium constituents of the blood and can scarcely be expected to come from the hypophosphite combination, which has been shown not to break up or be oxidized in the body.

We must therefore conclude that hypophosphites have absolutely no value as a source of phosphorus to the body. This does not exclude the possibility that they might have some direct action of their own on the course of the disease. For this, however, there is no experimental evidence. There is some clinical evidence in its favor; but it is noteworthy that very little, if any, of this comes from hospitals where careful observations are practiced. Even the favorable clinical opinions amount to little more than subjective improvement — a matter which is of very little scientific value in tuberculosis.

While there is thus very little critical evidence in favor of the hypophosphites, they are harmless in themselves. Their main danger is in encouraging the poor phthisic to seek his salvation [illegible] nostrums, instead of [illegible] have thus far proved [illegible] danger of druggin[illegible] absurd and unscientific combinations in which the hypophosphites are prescribed.

The Pharmacopeia recognizes calcium hypophosphite, iron hypophosphite, manganese hypophosphite, potassium hypophosphite, sodium hypophosphite, the syrup of hypophosphites, the compound syrup of hypophosphites, and the emulsion of cod-liver oil and hypophosphites. The National Formulary recognizes the elixir of calcium hypophosphite, the solution of hypophosphites, the compound solution of hypophosphites, the syrup of calcium hypophosphites, and the syrup of calcium and sodium hypophosphites. All of these preparations, of both the Pharmacopeia and the National Formulary, could be deleted from these official books without any loss to mankind.

The syrup of hypophosphites, U. S. P., contains: calcium hypophosphite, potassium hypophosphite, sodium hypophosphite, dilute hypophosphorous acid, sugar, tincture of fresh lemon-peel and water.

As there is no known value in hypophosphorous acid, every ingredient of this mixture could be eliminated except the bare possible value of the calcium hypophosphite, and the multiple mixture be repudiated. As to the calcium hypophosphite, as just stated there is no known chemical or physiologic value of the hypophosphite salt, and both calcium and phosphorus can be given better by the ordinary foods.

The compound syrup of hypophosphites contains: calcium hypophosphite, potassium hypophosphite, sodium hypophosphite, iron hypophosphite, manganese hypophosphite, quinin, strychnin, sodium citrate, dilute hypophosphorous acid, sugar and water.

This multiple mixture is a disgrace to any modern book, and it is to be hoped that the disgrace will not be perpetuated in the new Pharmacopeia. As we have previously stated, iron, manganese, quinin and strychnin may be administered, if needed, in many better ways. There can be no excuse for this hodge-podge or "hash" of drugs, or, we might say, disagreeable soup—or for copying or perpetuating the nostrum which this formula really is supposed to ape. Let us dismiss this preparation from the Pharmacopeia and from therapeutic use.

It is not necessary to name the several proprietaries and the several nostrums that exploit the hypophosphite treatment of lack of nutrition or as an antidote to tuberculous processes. Whenever we administer these preparations of hypophosphites we are perpetuating a myth, we are giving something which we know has no scientific value, and has no clinical value except as the combination may contain tonics, and has no food or nutritive value that can compete with milk, eggs and cheese. When we order such combinations, especially if they are expensive proprietaries or nostrums, we are insulting our own intelligence.

DISTURBANCES OF THE HEART *

(Continued from page 667)

PAROXYSMAL TACHYCARDIA

This condition is generally termed by the patient a "palpitation," and palpitation of the heart is recognized by most physicians as meaning a too rapidly-acting heart, the term "tachycardia" being reserved for an excessive rapidity of the heart. Some persons normally have a pulse and heart too rapid; children more or less constantly have a heart-beat of from 90 to 100. Women have more rapid heart action than men, and it becomes more rapid with their varying functions, specifically increasing in rapidity before, and perhaps during, menstruation. Many patients have a rapid heart action with the slightest increase in temperature and in any fever process. Some have a rapid heart action after the least exertion without any cardiac lesion or assignable excuse for such rapidity. Others have a rapid heart with mental activity and excessive excitement. Therefore in deciding that a heart is abnormally rapid, as in bradycardia, one must individualize the patient.

During or after illness many patients are said to have palpitation when the real cause is an unhealed myocarditis. Tuberculosis almost invariably causes increased heart action, even when there is no fever. All high fever increases the heart's action, but not so markedly in typhoid fever as in other fevers; in fact, the heart in typhoid fever, during the early stages, is likely to be slower than the temperature would seem to call for. In anemia when the patient is active the heart is generally rapid. The rapid heart from cardiac disease has already been considered. For the palpitation or rapid heart just described there is little necessity for other treatment than what the acute or chronic condition would call for. With proper management the condition will improve unless the patient has an idiosyncrasy for intermittent attacks of slightly rapid heart, as from 100 to 120 beats per minute.

A permanently rapid heart, when the patient is at rest, is generally due to hypersecretion of the thyroid, which will be discussed later. Paroxysmal tachycardia, the condition now under discussion, is a name applied to very rapid heart attacks in persons who are more or less subject to their recurrence. They may occur without any tangible excuse, and are liable to occur during serious illness, after a large meal, after a cup of tea or coffee, or after taking alcohol. The heart may beat as rapidly as from 150 to 200 times a minute, or even more, with no other symptoms than a feeling of constriction or tightness in the chest, an inability to respire properly and a feeling of "air hunger." The patient almost invariably must sit up, or at least have his head raised. Attacks of cardiac delirium may occur with serious lesions of the heart, as valvular disease or sclerosis, but paroxysmal tachycardia occurs in certain persons without any tangible cardiac excuse. The auricles of the heart may act more energetically than normal and precede as usual the ventricular contraction; or the auricles and ventricles may contract almost together — a so-called "nodal" type of contraction. Rarely does a patient die of paroxysmal tachycardia. The length of time the attack may last varies from a few minutes to an hour, or even for a day or more.

There is no specific treatment for paroxysmal tachycardia. What is of value in one patient may be of no value in another; in fact, drugs are rarely successful in ameliorating or preventing the condition. Patients who are accustomed to these attacks often learn what particular position or management stops the attack. Sometimes a patient rises and walks about. Sometimes an ice-bag over the heart will stop the attack. If there is no serious illness present, and no serious cardiac disease causing the condition, and a patient is known to have an overloaded stomach or bowels, an emetic or a briskly-acting cathartic is the best possible treatment. The attack often terminates as suddenly as it begins, without leaving any knowledge as to which particular treatment has been beneficial. A patient who is well and has an attack of tachycardia should be allowed to assume the position that he finds to give him the most comfort, and to use the means of stopping his attack which he has found the most successful. In the absence of his success or of his knowledge of any successful treatment, a hypodermatic injection of 1/6 or even ¼ grain of morphin sulphate is often curative. Atropin should not be given, as it may increase the cardiac delirium.

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* Editorial Note: This series of article on "Disturbances of the Heart" will be issued in book form, in accordance with the desires of a large number of our readers from whom we have received letters. We will appreciate it if as many persons as possible order copies in advance, so that we may have some idea how many to print.

If an attack lasts more than an hour or so, one of the best treatments is the bromids, which should be given either as potassium or sodium bromid in a dose of 2 or 3 gm. (30 or 45 grains) at once. Sometimes one good-sized dose of digitalis may be of benefit, but it is often disappointing, and unless there is a valvular lesion with signs of broken compensation, it is rarely indicated. It should also be remembered that, if the patient is receiving digitalis in good dosage for broken compensation, cardiac delirium may be caused by an overaction of the digitalis. Such overaction would be indicated by previous symptoms of nausea, vomiting, intestinal irritation, a diminished amount of urine, headache and a tight, band-like feeling in the head, cold hands and feet, and a day or two of very slow pulse. If none of these symptoms is present, though a patient has received digitalis for broken compensation, a tachycardia occurring might not contra-indicate digitalis, as much of the digitalis on the market is useless, and a patient may not actually have been obtaining digitalis action.

If the tachycardia occurs in a patient with arteriosclerosis, especially if there is much cardiac pain, nitroglycerin is of advantage; also warm foot-baths. If there is prostration and a flaccid, flabby abdomen, a tight abdominal bandage may be of benefit.

Gastric flatulence, while perhaps not a cause of the tachycardia, is liable to develop and be a troublesome symptom. Anything that causes eructations of gases is of benefit, as spirit of peppermint, aromatic spirit of ammonia or plain hot water. If there is hyperacidity of the stomach, bicarbonate of sodium or milk of magnesia will be of benefit.

The ability of some patients to stand a rapid heart action without noting it or being incapacitated by it is astonishing. It may generally be stated that a rapid heart is noted, and a pulse above 120 generally prostrates, at least temporarily, a patient who is otherwise well, provided the cause is anything but hyperthyroidism. A patient who has hypersecretion of the thyroid will be perfectly calm, collected, often perhaps not seriously nervous, and, with a heart beating at the rate of 140, 150, 160 and even 170 per minute, will state that she has no palpitation now, although she sometimes has it. A heart thus fast, with a patient not noting it and not prostrated by it, is almost diagnostic of a thyroid cause.

Some patients, both men and women, cannot take even a small cup of tea or coffee without an attack of paroxysmal tachycardia. Such patients, of course, quickly learn their limitations.

HYPERTHYROIDISM

The presence of a well-marked case of Graves' disease or exophthalmic goiter is not necessary for the secretion of the thyroid to be increased sufficiently to cause tachycardia; in fact, an increased heart rapidity in women often has hyperthyroidism as its cause. The thyroid gland hypersecretes in women before every menstrual period and during each pregnancy, and with an active, emotional, nervous life, social excitement, theaters, too much coffee; and, unfortunately to-day among women, too much alcohol, it readily gives the condition of increased secretion; and the organ that notes this increased secretion the quickest is the heart.

The tachycardia of a developed exophthalmic goiter is difficult to inhibit. Digitalis is of no avail, and no other single medicinal treatment is of any great value. The tachycardia will improve as the disease improves. On the other hand, nothing is more serious for this patient than her rapid heart, and if it cannot be soon slowed, operative interference is absolutely necessary. If the rapid heart continues until a myocarditis has developed and a weakening of the muscle fibers occurs or dilatation is imminent or has actually occurred, operative interference is serious, and most patients under these conditions die after a complete operation, i. e., the removal of from one-half to two-thirds of the thyroid. In such cases the only excusable operative interference is the graded one, namely, the tying of first one artery and then another of the thyroid to inhibit the blood-supply to the gland so that it may not furnish so much secretion. If the heart then improves, a more radical operation may be done without much serious danger. Therefore the working rule should be that, if a heart does not quickly improve under medical management, operative interference should not be delayed until the heart has become degenerated.

If tachycardia is the only serious symptom present in a patient who is considered to have hyperthyroidism, it may generally be successfully treated by insistence on quiet, cessation of all physical and exciting mental activities, more or less complete rest, the absolute interdiction of all tea, coffee, or other caffein-bearing preparations, total abstinence from alcohol, the restriction to a milk, cereal and fruit diet (the withdrawal of all meat from the diet), the administration of calcium, as the calcium glycerophosphate in dose of 0.3 gram (5 grains) in powder three times a day, and for a time, perhaps, the administration of bromids. If the depressing action of bromids on the heart is counteracted by the coincident administration of digitalis, they will act only for good by quieting the nervous system and more or less inhibiting the secretion of the thyroid gland.

If a patient has exophthalmic goiter fully developed, absolute rest in bed, with the treatment above outlined, should soon cause improvement. If it does not, the operative treatment as above advised should be considered. If myocarditis has been diagnosed, the minor operations should be done if the patient does not soon improve. The prolongation of the treatment depends on the condition and the amount of improvement.

If the physician is in doubt as to whether this particular tachycardia is caused by hyperthyroidism or not, the administration of sodium iodid in doses of 0.25 gm. (4 grains) three times a day will make the diagnosis positive within a few days. If the trouble is due to hyperthyroidism, all of the symptoms will be aggravated; there will be more palpitation, more nervousness, more restlessness, more sweating and more sleeplessness. In such cases the iodid should be stopped immediately, of course, and the

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[*For other information see second page following reading matter*]

SATURDAY, MARCH 8, 1913

SOME FEATURES OF MALNUTRITION IN INFANCY

German pediatrists use the term *Nährschaden* to designate various types of malnutrition in children. The emphasis is placed on a pathologic make-up of the organism as the result of unsatisfactory utilization of the available food-supply. The defect may be conditioned by the individual itself and ultimately result in some abnormal composition of the body owing to an inherent anomaly; or it may be the outcome of an inadequate quality of the nutriment supplied. In other words, here is a situation in which both food and bodily constitution may be at fault.

Abnormally functioning mechanisms are not easily located in the human body — and least of all in the infant organism. Food factors are more readily amenable to analysis and review from the point of view of their physiologic fitness. The study of the association of pathologic phenomena with dietary causes in the formative period is just beginning to attract the attention which it deserves. Perhaps the most prominent, because most familiarly recognized, type of malnutrition in this group, is that observed in which carbohydrates preponderate in the diet, as in certain cereal foods. It is typical of the undue use — or abuse — of proprietary infant foods which results in profound alterations of the body, the so-called *Mehlnährschaden* of infants.

The preponderance of carbohydrate in these dietaries may have as a corollary an attendant poverty in other foodstuffs, notably proteins and inorganic salts. The opinion of pediatrists as to the relative importance of these different factors in the etiology of the nutritive defect has varied. By some, like Heubner, the low protein content of the food-intake of infants of the type under discussion has been emphasized as the detrimental feature. Others, like the Czerny school, have centered attention on the salt problems in these nutritive disorders. Professor Salge[1] of Freiburg has attempted to interpret the known phenomena and apply diagnostic methods in practice. He is not inclined to accept the low-protein theory of causation, because the changes observed in the organisms of these unsuitably fed infants point to severe disturbances in the water metabolism which is far more likely to be associated with salts than with proteins. Of course the possible rôle of tissue colloids must not be overlooked in such connections.

Salge has observed that at very early ages improper feeding ultimately betrays itself in changes in the composition of the blood which can be detected by comparatively simple procedures. The protein content of the serum and its quota of inorganic salts sink to unexpected levels, indicating a real impoverishment. This does not occur until quite late in the progress of the malnutrition. It is a postulate of physiology that the blood aims to conserve a constant composition. The tissues therefore disclose the nutritive defects much sooner; and only when compensatory processes no longer suffice does the blood-picture change. In the severer types, however, Salge states that he has never failed to detect a poverty of salts in the serum. So long as this has not supervened — so long as the blood, the main pillar of the system, remains unimpaired — recovery can be induced by correcting the dietary, notwithstanding the exhibition of severe symptoms on the part of the skin, muscles, etc.

The capacity of the infant organism to withstand the damages of unsuitable cereal feeding (which encompasses the majority of the cases) depends somewhat on conditions of age. The appearance of marked changes in the composition of the blood suggests an unfavorable prognosis. This unfavorable sign serves further to explain the lowered resistance of such malnourished infants to the invasion of infective organisms.

INCLUSION BODIES IN SCARLET FEVER

A few months ago attention was called in these columns[1] to a newly observed phenomenon in scarlet fever which gave promise of proving valuable in the diagnosis of this disease. Certain inclusion bodies in the white blood-cells were found by Döhle, Kretschmer, Ahmed, Nicoll and Williams and others to be of frequent occurrence in scarlet fever. It was not certain, however, that they appeared in all cases of scarlet fever, and that they did not occur in some cases of measles, diphtheria, pertussis, tonsillitis and streptococcal infections.

As pointed out, the peculiar virulence, treachery and epidemicity of scarlet fever lend particular interest to any diagnostic procedure which will facilitate early diagnosis, especially in obscure or mild cases, for it is to be remembered that the mild case may initiate a series of most virulent cases, and the obscure case is not infrequently complicated with some other disease. In fact, scarlet fever may be entirely overlooked when associated with diphtheria, measles, pertussis and other affections.

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[1] Salge, B.: Ein Beitrag zur Pathologie des Mehlnährschadens der Säuglinge, Jahrb. f. Kinderh 1912, lxxvi, 125.

[1] Alleged Diagnostic Sign of Scarlet Fever, Editorial, The Journal A. M. A., July 20, 1912, p. 198.

Ker, indeed,[2] states that he has seen four infections existing concurrently in the same patient: scarlet fever, diphtheria, chicken-pox and pertussis. It is evident that a reliable diagnostic measure would be of the highest value in obscure, mild and complicated cases.

Granger and Pole[3] have recently added another series of cases in which the blood was examined for Döhle's inclusion bodies. These authors use a simplified staining method which has certain advantages over the Manson method described in The Journal.[1] By this method ordinary blood-smears are made, and after being dried in the air, are fixed by being passed several times through a flame. They are then dipped into water, and the excess of water is removed by a few vigorous shakes. They are now covered with a solution of phenol methylene-blue for thirty seconds. This solution is made by adding 1.5 gm. of methylene-blue to 10 c.c. of absolute alcohol and 100 c.c. of a 5 per cent. solution of phenol in water. The red cells are not stained, while the polymorphonuclear white cells and the inclusion bodies are stained as in Manson's method.

The conclusions presented by Granger and Pole are drawn from the examination of 191 cases of scarlet fever, 37 of measles, 27 of diphtheria, 24 of tonsillitis, 20 of pertussis, 20 of serum rash, 7 of urticaria, 4 of pneumonia, 3 of erysipelas and 4 normal. Their results indicate that, excluding the malignant fatal toxic type of scarlatina, the inclusion bodies of Döhle probably occur in every true case of scarlatina during the first four days of illness, and that absence of the inclusion bodies practically excludes scarlet fever. In nearly every case the inclusion bodies were present up to the fourth day, after which they appeared with decreasing frequency and after the eighth day are seldom found. In a few cases, however, the bodies were found as late as the third or fourth week.

Granger and Pole found the inclusion bodies present in rather a large percentage of the cases of diphtheria, tonsillitis and measles; hence they were of no value in a differential diagnosis from these affections. In fact, these authors believe them to be present in most of the diseases caused by the ordinary pyogenic organisms, especially if streptococci are present. In toxic rashes none was found. It is impossible to diagnosticate scarlet fever from this blood examination alone.

So far no acceptable theory has been advanced to explain the nature or origin of these inclusion bodies. Undoubtedly they have some more or less specific relation to scarlet fever, but whether or not this relation is distinctive enough to be of absolute diagnostic value can be determined only by further study and observation of large series of cases and of many diseases. Explanation of the nature of the bodies may conceivably throw light on the etiology of scarlet fever.

ENDEMIC GOITER

It has almost become a conventionality to preface remarks about the etiology of goiter with the statement that the cause is unknown. Yet the problem is so interesting, the statistics are so suggestive, the opportunities for theorizing so inviting, and the practical aspects so important that the most diverse ideas on the subject have been entertained for many years. Certain factors can at once be ruled out in view of the fact that goiter, in its endemic form especially, occurs in every latitude, at every altitude where people live, and in various climates. Nevertheless there is an unquestionable relation of goiter to locality, and the influence of a region exhibits itself alike on the human beings and the domesticated and wild animals inhabiting it. There is difficulty, therefore, in escaping the conclusion that the cause must exist in the air, the soil or the water.

The consequences of endemic goiter and the maladies with which it may be intimately associated are no longer treated with the professional indifference characteristic of a generation ago. The number of individuals involved and the wide-reaching effects are better appreciated in the light of the growing statistics on the goitrous affections, so that a spirit of responsibility has been aroused. It is, of course, a truism that every advance in our knowledge of the etiology of disease represents progress toward the ultimate control thereof. Accordingly the evidence of the incidence of endemic goiter and the theories as to its cause are again being sifted over and subjected to critical inspection from twentieth-century points of view. An illustration of this type of research is furnished by a recent investigation of the goiter situation as it exists in Bavaria.[1] This has shown that the manufacture of statistics is not always conducted with the precision or insight which the question in hand demands. According to the judgment of Schittenhelm and Weichardt the most reliable index of the involvement of any region is to be attained by careful examination of the school population. The maximum frequency in the goiter areas is found to occur after the ninth year of age; in later years it diminishes. The significance of examinations of schoolchildren is brought into bold relief by quoting the figures for the more or less serious enlargement of the thyroid in the school population of circumscribed geographic areas. Thus at Erlangen it involves only 6 per cent.; at Traunstein in Upper Bavaria, 57 per cent.; at Erlau in Lower Bavaria, 77 per cent.

The detailed investigations of Bircher, who has attempted to correlate the frequency of endemic goiter with certain geologic formations, are more or less familiar to all students of the subject. Not only the superficial geologic relations, but also the stratigraphic features of different regions have been drawn into consideration in the [illegible] is phase of [illegible]

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[2] Ker, C. B.: Infectious Diseases, 1909, p. 526.

[3] Granger, John, and Pole, C. Kinsley: Inclusion Bodies in Scarlet Fever, Brit. Jour. Child. Dis., January, 1913, [illegible] 9.

[1] Schittenhe
mit besonderer
Bayern, J. Sp

The newly available Bavarian statistics have now been analyzed, as have been other data from Norway and elsewhere, to ascertain to what extent, if at all, there is scientific justification for the belief that the rocks as such or the chemical or organic peculiarities of the soils of definite geologic origin are correlated with endemic goiter. The Bavarian report referred to concludes that geologic formation is not the primary or determining factor in the endemic distribution of goiter. The belief is further ventured that the etiologic factor is to be sought in water the composition of which may, of course, be indirectly modified by rock and soil conditions.

The association of goiter with drinking-water is not new.[2] The stories of the goiter-producing waters of India and the immunity of those persons who avoid them, and the classic experiment of Bircher in the Swiss commune of Rupperswyl, where the introduction of a water-supply from a non-goitrous region was followed by a gradual drop in the proportion of goitrous school-children, are frequently quoted to support the contention that the cause of goiter is in drinking-water. Lately a type of thyroid hyperplasia in fishes has been found in "infected" fish-ponds.

The incidence of endemic goiter among children of school age recalls observations made on an epidemic form of thyroid hypertrophy prevalent in Brazil as the outcome of trypanosome infections. In the infected regions many cases of cretinism and infantilism developed, and it was principally children that were subjected to the malady. From such analogies and the facts earlier cited, Schittenhelm and Weichardt have developed the view that in goitrous regions the noxious agent (whatever it may be) may reach most of the population alike; but the majority acquire a sort of immunity. From this point of view the young would be expected to show greater susceptibility; and as a matter of fact it is known that it is the young who are peculiarly liable to develop goiter on being transferred from goiter-free districts to those involved.

It is too early to value correctly the various claims of immunity made for boiled waters and filtered waters in goiter regions. The strictly experimental study of the etiology of endemic goiter has scarcely been begun. Nevertheless it may not be amiss to venture the belief that, as a purely tentative hypothesis, the existence of a transmissible infective agent according well with many of the epidemiologic and biologic features of the disease, is by no means unlikely. Strong objections have been raised against the probability of a living agent as the cause of goiter; and it has been pointed out that the alleged infection does not tend to be progressive or self-propagating. But the unsuspected possibilities of acquired immunity must be taken into account and we must become prepared to recognize novel forms of latent infection. The situation ought to be faced with the weapons of modern experimental preventive medicine.

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[2] Compare McCarrison's Researches on Goiter, editorial, The Journal A. M. A., Aug. 10, 1912, p. 449.

FACTORS AFFECTING THE COMPOSITION OF MILK

In a recent issue of The Journal[1] the influence of the stage of lactation on the quality of the milk of dairy cattle was commented on. In addition to this factor there are other known causes of variations, notably the breed of the animal, the individuality and to some extent the feed, the interval between milkings, and the temperature and weather conditions. It is also known that the first and last milk drawn differ in composition. We have already pointed out that when a large supply of milk furnishes the source for the use of the individual any considerable variations in composition are likely to disappear, the average mixed product from many animals representing a fairly uniform food. These are the conditions which obtain in larger cities, where dairy companies sell the output from many farms. The uniformity is further preserved by the fact that it is quite common for a particular breed of cattle to form the prevailing type in the separate dairy localities, thereby obviating the chance for the more extreme inequalities represented by widely differing breeds. Whenever the milk supply is derived from a smaller herd or from a few selected cows, possibilities of daily variations and even changes from milking to milking are not unlikely to arise, bringing problems of immediate importance in the more refined practice of infant-feeding. There are other technical reasons for desiring reliable information regarding the variations in cow's milk; but neither these nor the conflicting claims of the breeder enthusiasts who represent the various types of cattle such as the Holsteins, Jerseys, etc. need concern us here.

A recent compilation,[2] including all complete analyses of the milk of pure-bred animals for the entire lactation periods published up to the present by American experiment stations, corroborates the generally accepted assumption regarding the variations in fat content due to breed. Among the more familiar breeds, namely, Jersey, Guernsey, Ayrshire, Holstein and Shorthorn, the average percentage of solids is highest with the Jersey and lowest with the Holstein. The fat represents 35 per cent. of the total solids with the Jersey breed and 28 per cent. for the Holsteins. What is not so generally known is that the breed also exerts a decided influence on the protein content. The individuals and breeds, such as the Jersey, having the higher percentage of fat have at the same time a higher percentage of protein. The proportion of the total protein present as casein does not seem to bear any special relation to the breed; but the ratio of casein to fat varies uniformly with it. The nature of the fat is undoubtedly influenced by the feed of the animal, while the sugar content gives little indication of variation with either the breed or the individual. The accompanying new comparative data representing the most recent statistics available may be of value to some of our readers:

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[1] Cow's Milk and the Stage of Lactation, editorial, The Journal A. M. A., Feb. 22, 1913, p. 596.

[2] Eckles, C. H., and Shaw, R. H.: The Influence of Breed and Individuality on the Composition and Properties of Milk, Bureau of Animal Industry, Bull. 156, 1913. This bulletin can be obtained from the Government Printing Office in Washington at 5 cents per copy.

	Total Solids Per Cent.	Fat Per Cent.	Protein Per Cent.	Sugar Per Cent.
Jersey	14.70	5.14	3.80	5.04
Guernsey	14.49	4.98	3.84	4.98
Ayrshire	12.72	3.85	3.34	5.02
Holstein	12.00	3.45	3.15	4.65
Shorthorn ...	12.57	3.63	3.32	4.89

Comparisons of morning and evening milk justify the statement that although the fat content may show some small variations depending mostly on the individual, in general the composition of the milk-plasma does not seem to vary appreciably when the intervals between the milkings is the same. The relative richness in fat of the last milk drawn and commonly known as strippings, in contrast with the foremilk from the same cow, is sometimes very striking. With cows producing large quantities of milk the strippings may contain from three to ten times as much fat as the first milk drawn.[3] The inequalities are confined solely to the amount of fat present, the plasma remaining practically the same in composition. The larger size of the fat globules in the last milk drawn and the general increase in their size from foremilk to strippings is perhaps accounted for on the assumption that larger fat globules are held back in the small ducts more readily than the smaller droplets. These general considerations may also apply to the milks of other species, and need to be taken into account in all sampling of milk for the purpose of analysis.

MISAPPREHENSION AS TO THE NOVELTY OF THE FRIEDMANN TREATMENT

In view of the newspaper sensation caused by the announcement by Dr. Friedmann of another "cure" for tuberculosis, it would seem well to review some of the facts previously known. Even editors of medical journals, who should be conversant with the history of medicine and of tuberculosis, have been led into grave error. For example, a recent editorial in a medical journal, from which the *Literary Digest* quotes,[1] makes the statement that "Friedmann came to the conviction that the most potent curative and immunizing powers lie in the living bacterial organism itself, and not in the dead organism as used in the method of Wright and his school." The editorial says further, "Our own impression from the entire debate is that Friedmann has enunciated a principle of far-reaching consequence and has probably discovered a remedy that influences tuberculosis favorably." The effect of this editorial is to credit to Friedmann the discovery that in order to produce immunization against tuberculosis living cultures are necessary. For the truth of medical history as well as the credit of American physicians it is well to point out some of the things which were done years ago.

In 1892 and 1893, Trudeau[2] of Saranac Lake demonstrated the fact that subcutaneous inoculation of living cultures of the avian tubercle bacillus greatly increased the resistance of rabbits against infection by virulent mammalian cultures. He immunized rabbits to such an extent that when they were inoculated with virulent cultures, the inflammatory reaction gradually disappeared, leaving the eye in the normal condition, while in control animals the destruction of the eye was complete. As far as we have been able to discover, Trudeau was the first to announce the principle that living cultures must be used in order to produce an efficient immunity against tuberculosis.

De Schweinitz[3] in 1894 immunized animals with human tubercle bacilli which had been cultivated for twenty generations on slightly acid broth. At the end of this time the cultures were not virulent for guineapigs, but were capable of immunizing these animals to such an extent that they resisted infection with the bovine germ. Control animals died in seven weeks.

Pearson and Gilliland[4] demonstrated that human tubercle bacilli which were not virulent for cattle would produce a high degree of immunity when injected into the circulation. In 1905 the same authors[5] demonstrated a strong curative action on tuberculosis from injections of non-virulent tubercle bacilli derived from human beings.

Webb and Williams[6] demonstrated that immunity against tuberculosis could be produced by the inoculation of living tubercle bacilli, beginning with small doses and gradually increasing.

If we go to foreign publications it is easy to multiply instances of the use of living cultures. In 1901 McFadyean[7] not only demonstrated his ability to produce immunity in cattle by the use of living cultures, but also in one case treated an animal which was already tuberculous. The animals resisted for a long time injections of tubercle bacilli of proved virulence for cattle.

In 1901 von Behring announced his method of bovovaccination, the first detailed publication[8] of which appeared in 1902. Living cultures were used.

In 1903 Thomassen[9] reported experiments in which by the intravenous injection of human tubercle bacilli into young cattle he produced a considerable degree of immunity.

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[3] The justification for this and other statements is derived from Eckles, C. H., and Shaw, R. H.: Variations in the Composition and Properties of Milk from the Individual Cow, Bureau of Animal Industry, Bull. 157, 1913.

[1] Literary Digest, March 1, 1913, p. 451.

[2] Trudeau: New York Med. Jour., July 23, 1893.

[3] De Schweinitz: Med. News, Dec. 8, 1894.

[4] Pearson and Gilliland: Philadelphia Med. Jour., Nov. 29, 1902.

[5] Pearson, L., and Gilliland, S. H.: Effect of Tuberculosis Vaccination on Cattle Infected with Tuberculosis, Univ. Penn. Med. Bull., April, 1905.

[6] Webb and Williams: Jour. Med. Research, xx, No. 1, xxiv, No. 1.

[7] McFadyean: Jour. Comp. Path. and Therap., June, 1901, March, 1902.

[8] Von Behring: Beitr. z. exper. Therap [illegible] No. 5.

[9] Thomassen: Rec. de [illegible] t., Ja [illegible]

Vallée[10] reported experiments in which young animals were rendered highly immune against virulent bovine infection by the use of non-virulent living cultures derived in the first instance from a horse.

Instances could be multiplied, but these are enough to demonstrate that Friedmann has not discovered or announced any new principle in regard to the immunization against tuberculosis. As far as our knowledge goes, he has followed methods which were demonstrated first in this country, and have been confirmed by many workers in America and Europe.

The psychology of the excitement of the public over Friedmann is hard to understand except on the basis of clever press-agent work. Practically every fact which he has brought forward has been known for years. Why the bacillus from the turtle should possess special curative value for the human being is a mystery, although, of course, it cannot be denied that it is within the range of possibility that such a thing may be true. The point of scientific interest that should be made clear, however, is that he has discovered no new principle, at least as far as the published communications go. The principle of using slightly virulent cultures derived from another species was demonstrated by Trudeau in 1891 and 1892. The principle of intravenous injection for the best production of immunity against tuberculosis was demonstrated by Pearson and Gilliland and others in 1902. It seems, then, that if he has discovered anything at all it is only a culture which possesses unusual immunizing powers for human beings.

Practically, of course, the point of interest is in the question whether or not a harmless and clinically efficient immunizing culture has actually been worked out. On this point we still await authoritative tests, for we have no information that Dr. Friedmann has yet submitted his treatment to investigation by competent and unprejudiced experts in the treatment of tuberculosis. The announcement that he has agreed to submit his method to be tested by the New York City Department of Health and by the Public Health Service will, perhaps, be viewed with natural skepticism until the test has actually taken place, in view of the fact that he withdrew the offer to submit the treatment to his own government. If it proves its worth under adequate, unbiased scientific investigation, the medical profession, of course, will be only too glad to forget the unfortunate features in its exploitation which have raised a presumption against its worth. Until then, the public and the profession alike may be pardoned for remembering that a patent was applied for and the treatment advertised before its value was established; that as yet we have the word of no one who has actually tested it except Dr. Friedmann and his assistants or associates and, finally, that, although there is no lack of clinical material in Germany, he has chosen to bring it to America first from no other apparent motive than pure commercialism.

Current Comment

FAIR PLAY FOR DR. FRIEDMANN—AND FOR THE PUBLIC

One of the most useful functions of newspapers is to call public attention to public injustice. Occasionally, however, it is proper to inquire if the admirable zeal displayed in this good cause has not been hastily misapplied. For instance, Dr. Friedrich Franz Friedmann of Berlin is plaintively asking for a fair field in which to demonstrate his treatment for tuberculosis; one or two newspapers have at once sprung to champion his cause and are inquiring why Dr. Friedmann cannot be accorded fair play. Why, they ask, can he not be allowed a chance? Before answering this question, it is well to find out whether or not Dr. Friedmann has been denied fair play in any particular. In parenthesis, it may be remarked that, if all Dr. Friedmann wanted was a chance to demonstrate his treatment, he did not need to cross the ocean; indeed, his action in withdrawing his treatment from test by his own government accords somewhat strangely with his pose of unheeded and unjustly treated discoverer. Let that pass. Being on this side of the water, he presumably wishes either to submit his treatment to investigation by competent and unprejudiced practitioners, or to employ it himself — under such conditions, of course, if he is acting in good faith, as will permit his colleagues to form an adequate opinion of it. If he wants the first-mentioned opportunity — merely to have his treatment investigated under proper conditions — the Public Health Service has offered to give it ample clinical test after demonstration of its harmlessness. If, on the other hand, he wishes to employ it himself in New York, he has merely to present the proper credentials and pass an examination to prove his fitness to practice, as any other physician would be obliged to do. This, to be sure, would require time; but even this difficulty is not insurmountable, for the New York law contains a special provision for granting a license, under extraordinary circumstances, without the usual formalities. The New York authorities have signified their willingness to recognize extraordinary circumstances in this case provided Dr. Friedmann demonstrates the value of his method, and have stated that he is at liberty to make such demonstration in the New York City hospitals. We fail to see, therefore, that any unfairness is being shown Dr. Friedmann; on the contrary, he seems to us to be receiving the largest opportunity that any discoverer could desire for the demonstration of his treatment. It appears, moreover, that the newspapers which have hastily assumed that Dr. Friedmann is being unjustly treated have missed an important point — indeed, the important point in the whole matter: What about justice to the public? Would it be fair or just to the throngs of tuberculosis sufferers, excited by hope of a "sure cure," to facilitate their unlimited experimentation and exploitation by an unknown and perhaps dangerous method? It would not; and justice to the public, while not incompatible with justice to Dr. Friedmann, is, after all, the paramount consideration.

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[10] Vallée: Ann. de l'Inst. Pasteur, August and September, 1909.

PEORIA CONFERENCE ON CHILD WELFARE

The February number of the *Child-Welfare Bulletin* of the Child-Welfare League of Peoria, Ill., is an interesting exemplification of the good work being done by local child-welfare associations throughout the country. The league publishes a monthly bulletin, and the February number contains a report of the midwinter conference. The program included papers and discussions on pure milk by physicians, dairymen, the citizen consumer and members of the health board, and covered the question of pure milk from the several points of view of these different classes of citizens. The interesting bulletin is distributed free on application to the league and should be valuable to other organizations.

COOPERATIVE CLINICAL INVESTIGATION OF INFECTIOUS DISEASES

The opening of the Durand Hospital for Infectious Diseases, Chicago, referred to in our News Department, is worthy of special mention, if only because such a hospital helps to supply facilities for caring for those afflicted with contagious diseases — unfortunates who are nearly always refused admission to general hospitals. But the event deserves notice for two other reasons. The hospital building, together with a substantial annual income, is turned over to the Memorial Institute for Infectious Diseases, the latter, as is well known, having for its prime object research, aiming to increase the knowledge as to the nature and cure of infectious diseases. The hospital, therefore, has for its fundamental object research and education — a combination so rare in this country as to merit approving comment. The other fact worthy of note is the spirit of cooperation between those having in charge the Durand fund and those managing the affairs of the Memorial Institute. It was recognized that with the money available by the Durand bequest it was possible to erect a hospital, but not adequately to equip or to run it. Through union with the Memorial Institute, however, the way was clear for utilizing the building for the highest purposes. Thus Dr. Hektoen and his associates will have greatly increased opportunities for productive work in this special field of scientific medicine.

A TRAVELING HOSPITAL FOR RURAL NEEDS

C. W. Stiles[1] asserts that a pressing need of our rural districts is the hospital treatment which is open to even the poorest inhabitants of our city slums. He finds the need for such treatment particularly urgent in gynecologic and pediatric cases. The average mother with whom he comes in contact in field work is attended in her confinements, rarely by a physician or a trained nurse, usually by some of the neighbors or a dirty and ignorant midwife, with the result that injuries frequently occur which are never properly treated. He also finds large numbers of children who are handicapped in their physical and mental development by large tonsils and adenoids, and by defective eyes and teeth. He says, moreover, that the average country woman (white or black) with whom he comes in contact has exceedingly rudimentary ideas on cooking, housekeeping and care of children and the sick, and to meet the needs of this side of the problem the district nurse would be invaluable. The remedy which he proposes for these evils is a traveling hospital, equipped for the minor surgical work on children suggested above and for the repair of obstetric injuries or gynecologic ailments. He believes that it would be a comparatively simple matter to fit out a special hospital train of from three to six cars and take it to districts without hospitals. The difficulties to be overcome in establishing these trains are not insurmountable, and the expense need not be greater than that connected with any other hospital. The traveling hospital could also be utilized to bring about such results as much-needed postgraduate medical instruction to local physicians, ideas on cooking, housekeeping, infant-feeding, etc., to mothers, ideas on sanitation to the fathers, and special instruction along health lines to the schools. Stiles believes that this work is more important than the teaching of the farmers by special school trains how to increase their crops or how to take care of their live stock. The suggestion is the more valuable coming from Stiles, as he has had practical experience on laboratory trains in the rural districts in which research and observations were made on school children. This has shown him the need, the practicability and the possibilities of such a hospital train as he suggests.

PRESIDENT PRITCHETT'S REPORT ON MEDICAL EDUCATION

An article worthy of careful reading is that part of President Pritchett's annual report to the board of trustees of the Carnegie Foundation for the Advancement of Teaching which deals with the progress of the year in medical education.[1] Basing his statements on the investigations made by the foundation in both Europe and America, he calls attention to the widely differing conditions found in this country as compared with the countries of Europe. He shows that while European medical schools — for example those of Germany — hold to equally high standards, those in this country range from the highest to the very lowest standards, these extremes often appearing in the same city. Another striking difference is the attitude held by many universities toward their medical departments, the education in the latter being in many instances on a decidedly lower plane than that given by the same universities in their departments of liberal arts. Pritchett refers also to the unfortunate optimism with which even some of the humblest medical schools believe they are offering an education somehow superior to that given in even our best medical schools. On the other hand, the report points to many concrete evidences of progress. The number of medical schools has been greatly reduced, while at the same time those remaining have been largely improved in their standards of admission and in their internal development. Pritchett shows that much of the progress made has been due to the publicity given by the American Medical Association and by the Carnegie Foundation to the actual conditions existing throughout the country. [illegible] for the ma[illegible] improvements is given t[illegible] foun

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[1] Stiles, Charles Wardell: Pub. Health Rep., Jan. 31, 1913.

[1] This Issue, p. 743.

Medical Education of the American Medical Association. It is doubtless true, however, that a large part of this credit is due to the Carnegie Foundation for the thoroughness of its work and the wide publicity given to its reports.

THE TOXICITY OF ALDEHYDS

In a recent number was published a greatly needed warning of the dangers of formaldehyd,[1] which is coming into wide-spread popular use, with not infrequent disastrous results. Although formaldehyd is the most-used aldehyd, there are others which are not so generally known, and which may at times cause serious harm. Thus, Kunkel observed in persons working in acetic acid manufactories an extensive overgrowth of connective tissue in the liver, and sclerosis of the arteries, which he ascribed to chronic intoxication with aldehyds. Recently O. Loeb[2] has investigated the effects of a large number of aldehyds on experimental animals, and found that aldehyds of the fatty acid series generally cause arterial changes in rabbits, entirely similar to the experimental arteriosclerosis produced by epinephrin. Aldehyds of the aromatic series, although toxic, have not this effect on the arteries. It is thus evident that the anatomic effects here exhibited are dependent on the chemical structure of the agent, which introduces an interesting principle of pharmacology and toxicology. Evidently aldehyds are dangerous things, and formaldehyd may not limit its effects to the skin and respiratory passages, but, as Loeb's studies indicate, may cause deeper-seated changes if it acts for a long enough time or in sufficient doses. It certainly is not a proper substance for indiscriminate use, yet we observe more and more frequently its pungent, irritating vapors in public vehicles, water-closets, etc., which are presumably being "disinfected" while in use.

HIGHER PRELIMINARY QUALIFICATIONS ASSURED

Recognizing the need of a better preliminary training for those who are to study medicine than that furnished by the usual high-school degree, the Council on Medical Education of the American Medical Association in 1904 prepared what it termed an ideal standard for admission. In addition to the regulation four-year high-school education this standard included a year in physics, chemistry and biology, and the securing of a reading knowledge of a modern language, preferably German or French. It was suggested that this additional year's work might be taken in either a college of liberal arts or in a preliminary year given by the medical school itself. At that time, although in practically every other civilized country this higher preliminary training was required, only four medical colleges in this country were exacting anything in advance of a four-year high-school education, and for a large majority of medical schools there were practically no entrance requirements. By June 1, 1912, however, forty-five colleges had put into effect this or higher preliminary standards, and several others had adopted it to take effect in 1913 or 1914. Ten state licensing boards also had adopted one or two years of preliminary work in addition to the four-year high-school education as their minimum requirement of preliminary education. At the annual meeting of the American Medical Association in Atlantic City in June, 1912, the House of Delegates adopted a recommendation instructing the Council on Medical Education not to include in Class A (among acceptable colleges) after Jan. 1, 1914, any medical school which was not requiring for admission "not less than one year of college credits in chemistry, biology, physics and a modern language, or two or more years' work in a college of liberal arts, in addition to the accredited four-year high-school course." At a regular meeting held in Chicago last month, the Council on Medical Education adopted a resolution that the work of this preliminary year should correspond in excellence and in content at least with the freshman year's work in our standard colleges and universities. A subcommittee was appointed to prepare a detailed outline of the minimum requirements for this preliminary year's work. At its annual meeting held Feb. 26, 1913, the Association of American Medical Colleges appointed a committee with power to act, to cooperate with the committee of the Council on Medical Education in the preparation of an outline of minimum requirements for the preliminary year's work, thereby going on record as favoring this advance requirement. The general adoption throughout the country of at least one year of work in the premedical sciences, in addition to the standard four-year high-school course, for admission to the study of medicine would now seem to be assured.

Medical News

ARKANSAS

New Hospital Planned.—An emergency hospital is to be erected on Eighth Street, Argenta, for the Baring Cross shops.

Personal.—A fire in the apartment of Dr. L. Parker, Devall's Bluff, February 1, destroyed the entire building.——Dr. Isaac A. Ryan, Fort Smith, fell from his buggy, January 29, fracturing his arm just below the shoulder.——The office building of Dr. W. P. Parks, Mena, was recently burned with a loss of $2,500.——Dr. C. P. Wilson, Jr., has been elected city bacteriologist of Fort Smith.

Dowling in Arkansas.—Dr. Oscar Dowling, president of the State Board of Health of Louisiana visited Little Rock with his health train, January 29-31 and during his visit made a strong appeal to the members of the Arkansas General Assembly for the establishment of a state board of health in Arkansas. During its stay in Little Rock, the train was visited by several thousand people. The closing feature of the visit was a lecture on "Health," delivered by Dr. Dowling at the High-School Auditorium. The legislature passed a unanimous vote of thanks to Dr. Dowling for his address and exhibition.——Dr. Dowling and the members of his party were entertained at a banquet, January 29, by the Arkansas Medical Society, the Little Rock Chamber of Commerce and the state and city health departments.

ILLINOIS

New Officers.—Jacksonville Medical Club, February 22: president, Dr. George H. Stacy; secretary, Dr. C. E. Cole (reelected)

Colony for Epileptics.—At meetings of 2,000 Christian Endeavor societies of Illinois, February 23, the establishment of a farm colony for epileptics, under control of the State Charities Commission, was urged.

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[1] Morgan, William E.: The Serpent's Tooth in Formaldehyd, THE JOURNAL, Feb. 22, 1913, p. 590.

[2] Loeb, O.: Arch. f. exper. Path. u. Pharmakol., 1912, lxix, 114.

Personal.—Dr. George F. Johnson, mayor of East Moline, expects to move to Los Angeles early in the spring.——Dr. Harry E. Kerch, Dundee, suffered a partial paralysis of the motor nerve of the right eye, recently.

Hospital Notes.—The Marion Hospital Company has been incorporated at Marion with a capital stock of $20,000, by Drs. D. D. Hartwell, L. L. Fowler and A. M. Edwards.——The St. Clair County Board of Supervisors has asked for bids for the construction of a two-story addition to the County Free Hospital, Belleville. The old building is also to be remodeled and equipped with an elevator, operating-rooms, etc., the entire cost of the improvement is estimated at $16,500.

Chicago

Jacobi and Martin Guests of Honor.—At the dinner of the Chicago Medical Society, February 26, Dr. Abraham Jacobi, New York City, and Dr. Edward Martin, Philadelphia, were the guests of honor.

Western Reserve Alumni Dine.—A dinner was given at the Hotel Sherman, February 24, by the Chicago Alumni Association of the Western Reserve University, Cleveland, to the president of the institution, Dean C. A. Hamann and Secretary F. C. Waite of the Medical School.

Personal.—Dr. William A. Gross was cut and bruised in a collision between automobiles, February 26.——Dr. and Mrs. Casey A. Wood are taking a six weeks' trip to southern California.——Dr. and Mrs. Albert H. Hoy and Miss Hoy have sailed for Europe.——Dr. and Mrs. Junius C. Hoag sailed from New York, February 25, on a cruise to the West Indies and Panama.——Dr. Henry O. Wernicke, Chicago, has been appointed house physician at the Madison (Wis.) General Hospital.

Death of Eminent Pharmacist.—Prof. Oscar Oldberg, dean emeritus of the Northwestern University School of Pharmacy, an authority on pharmaceutics and chemistry; formerly dean of the National College of Pharmacy, Washington, where he was instrumental in introducing the metric system of weights and measures in the government service; for twenty-five years professor of pharmacy and for thirty years a member of the committee of revision of the United States Pharmacopeia, died suddenly in Pasadena, Cal., February 27, from heart disease.

Durand Hospital Opened.—The Annie W. Durand Hospital of the Memorial Institute for Infectious Diseases was opened February 27. The institution is located at York and Wood streets and for the time being will be devoted only to the care of scarlet fever cases. The exercises consisted in the transfer of the hospital from the Northern Trust Company as trustee under the will of Mrs. Durand, to the Memorial Institute, which will conduct the institution under a ninety-nine year agreement. In the absence of Dr. Frank Billings, Dr. James B. Herrick delivered the address which had been prepared by Dr. Billings, accepting the hospital on behalf of the Memorial Institute. The building and equipment are valued at about $400,000 and a laboratory for infectious disease research is to be established on land acquired immediately north of the hospital. The staff of the hospital is as follows: consulting physician, Dr. Ernest E. Irons; consulting surgeon, Dr. Dean D. Lewis; consulting otolaryngologist, Dr. S. A. Friedberg; physicians, Drs. George H. Weaver and E. C. Rosenow; resident physician, Dr. George F. Dirk, and intern, Dr. Morris Fishbein.

INDIANA

Appropriation for Medical School.—The Indiana legislature has made an appropriation of $65,000 for the Medical School and Hospital of the Indiana University School of Medicine for the first year, and an annual appropriation of $75,000 thereafter.

Personal.—Dr. Charles A. Daugherty, South Bend, who has been suffering for a considerable time from what was supposed to be inflammation of the gall-bladder, was operated on at Augustana Hospital, Chicago, February 25, but on opening the abdomen, conditions were found which rendered further procedure inadvisable.——Dr. James H. Taylor, Indianapolis, stepped from a street-car in front of an automobile, February 14, and was run down and painfully injured.

LOUISIANA

Personal.—Dr. Wiltz M. Ledbetter, formerly city physician of Shreveport, underwent operation for appendicitis, February 24.——Dr. Joseph A. O'Hara, New Orleans, coroner of Orleans Parish, who has been ill in Touro Infirmary, is reported convalescent.——Dr. O. L. Pothier, New Orleans, head of the pathologic department of the Charity Hospital, has resigned.

Clinic Superintendent Dies.—Louis Remon Jauquet, for twenty-six years superintendent of the Eye, Ear, Nose and Throat Clinic, New Orleans, "a friend to man, who devoted his life to good," died at his home, February 7, aged 62.

Legal Proceedings Against Leper Suspect.—Dr. Paul Thibodaux, health officer of Donaldsonville, has taken legal proceedings against a leper suspect of McElroy, who is said to be engaged in business in that town, praying that he be committed to the leper home in Iverville Parish, as provided by law.

KENTUCKY

New Hospital.—Dr. E. S. Stuart, Fairview, has given $25,000 to erect and equip a hospital in Hopkinsville for the benefit of the city and Christian County. The institution will be known as the Jennie Stuart Memorial Hospital and the erection of the building will be commenced as soon as a lot can be secured and plans approved. One-fourth of the capacity of the institution is to be reserved for charity patients.

Work of Registrars.—The following is from the chief statistician of the Census Bureau, Washington, to the Kentucky State Registrar of Vital Statistics: "Through newspaper reports, the bulletins of the state boards of health and personal conferences, I have learned of the kind of health work the local registrars of Kentucky are doing. It is shown that they not only endeavor to secure complete records of births and deaths, but, acting under the authority of the Kentucky vital statistics law, they report epidemics of typhoid, diphtheria, measles, infantile paralysis and other communicable diseases and aid actively in distributing literature, and in other ways, limit the spread of these diseases. By so doing the registrars of Kentucky have succeeded in putting into actual practice the purpose of such a law; that is, to preserve and conserve the health and lives of the people. It is my purpose to call the attention of the local registrars of the other twenty-one of the United States under this registration law to the work done by the registrars of Kentucky, that the greatest good may be secured from its operation."

MARYLAND

Baltimore

Lectures on Animal Psychology.—John B. Watson, Ph.D. professor of psychology in Johns Hopkins University has been selected by the Department of Psychology of Columbia University to deliver at that institution a course of eight lectures devoted to the study of animal psychology.

Personal.—Dr. Sidney R. Miller on returning to his home in Windsor Mills, near Baltimore, February 26, surprised two burglars, who escaped with jewelry valued at $500 and $45 in money.——Dr. George Walker has been appointed a member of the State-Wide Vice Commission.——Dr. Thomas J. O'Donnell is ill with influenza in St. Joseph's Hospital.

Field Hospital Established.—Company A, Hospital Corps, N. G. Md., became Field Hospital No. 1, February 20. This organization has met the requirements of the Dick bill that sanitary troops shall be separate and distinct units. The equipment of the field hospital is at present stored in the Howard Street Armory.

Medical Missionary News.—Dr. Charles W. Young, professor of bacteriology and pathology in the Union Medical College, Peking, China, and Dr. and Mrs. G. W. Guinter, missionaries of the Presbyterian Board in the Soudan, Africa, are visiting in Baltimore.——Dr. Mary Baer, superintendent of the hospital at Charila, India, is under treatment in Baltimore for an infected and crippled left arm.

Phipps Clinic Opening.—The ceremonies connected with the opening of the Phipps Psychiatric Clinic will begin April 16 and continue through three days. Among the distinguished guests who will deliver addresses are Sir William Osler and Prof. William McDougall of Oxford, Frederick W. Mott, F.R.S., of London, Professor Heilbronner of Utrecht, Professor Bleuler of Zurich and Prof. Orovino Rossi of Italy.

MASSACHUSETTS

Examination for Bacteriologist.—The Massachusetts Civil Service Commission will hold a competitive examination, March 18, for a male bacteriologist in the Health Department of Boston with a salary of $1,200 a year.

Personal.—Dr. Luke Corcoran has bee l a t
tee of the Northampton State Hospi ancis
Mahoney, Boston, has been reappoint of

Boston Health Board.——Dr. Edna M. Childs, Boston, has been appointed laboratory assistant in the Consumptives' Hospital.

Remedied Defects.—Dr. William J. Gallivan, chief of the Child Bureau of the Boston Board of Health, reports that the physical examinations of 30,331 school children have been reported to him since last September. Of these 17,233 were last year found to be defective, but, since the examination a year ago, 9,245 of these 17,233 have had their defects remedied.

Long Island Hospital.—The trustees of the infirmary department of the city of Boston have submitted plans for the improvement of the institution which if carried out will make this one of the best in the country. Alterations of the present building, new hospital pavilions, dormitory, nurses' home, kitchen building, tunnels, etc., involve an expenditure of about half a million dollars.

More Graduate Courses.—Further Massachusetts General Hospital courses offered to graduates in medicine are in "Medicine and Pathology" by Drs. William H. Smith, Roger I. Lee, and Oscar Richardson, Wednesdays in March and April from 3:30 to 5:30 p. m., and in "Orthopedic Surgery of Adults" by Dr. E. G. Brackett and his associates, Thursdays in March and April at 10:30 a. m.

Centennial of Hospital.—February marked the one-hundredth anniversary of the founding of the Massachusetts General Hospital. In February, 1813, the hospital received from the state the gift of Province House, valued at $40,000 and some cut stone worth $35,000. This is said to be all the assistance that has been given the hospital by the commonwealth during the past century. During the last year 6,629 patients were admitted to the institution. There were 22,029 new cases and 136,095 visits were made in the out-patients department.

NEW JERSEY

Health Board Election.—At the annual meeting of the Health Officers Association of New Jersey, held in Trenton, January 4: Dr. F. W. Sell, Rahway, was elected vice-president, and Drs. Alton S. Fell, Trenton; A. C. Benedict, South Orange, and Edward Guion members of the executive committee.

Medical Library Association Formed.—At a meeting of the physicians of Elizabeth, the Medical Library Association of Elizabeth was organized and the following officers were elected: president, Dr. J. P. Reilly; vice-president, Dr. Charles H. Schlichter, and secretary-treasurer, Dr. George Knauer.

NEW YORK

Diphtheria in Poughkeepsie.—There has been an outbreak of diphtheria in Vassar Brothers' Hospital, Poughkeepsie, which has made it necessary to place one ward of the hospital under quarantine.

New Hospital for Southampton.—The cornerstone of a new hospital for Southampton, L. I., which will cost $50,000, was laid February 22. The funds for the building have been raised entirely by popular subscription.

Personal.—Dr. J. O. Polhemus of Nyack was tendered a dinner on the occasion of his seventy-ninth birthday, February 26, by the staff of the Nyack Hospital.——Dr. John W. Russell, superintendent of the Matteawan State Hospital, resigned February 27.——Dr. James G. Hunt, Utica, has been appointed local surgeon for the New York, Ontario and Western Railroad.——Dr. Reid Gilmore has been appointed school physician, and Dr. F. E. White, city physician, of Schenectady.

State Should Aid Tuberculosis Fight.—The State Board of Charities has issued a formal statement to the effect that the state should establish district hospitals for the care of incipient and curable cases of tuberculosis. The board believes that it is absolutely necessary for the state to put forth much greater efforts looking to the relief of suffering and the prevention of the spread of contagion if the disease is ever to be overcome. These proposed district hospitals should be on the Ray Brook plan and the care of less promising and advanced cases should be left to local authorities. This plan would permit of enlarged facilities for the care of all classes of tuberculosis patients, and of a most desirable classification which it now seems impossible to secure in the smaller local institutions.

New York City

Personal.—Dr. Arthur S. Calman, house surgeon of the Lebanon Hospital, is in a very critical condition as a result of blood-poisoning from a small cut inflicted during an operation.——Dr. I. L. Nascher has been appointed professor of geriatrics in the College of Physicians and Surgeons, Boston.——Dr. William P. Healy has been reelected president, Dr. Albert F. Burgman, vice-president, and Dr. Alexander Nicoll, secretary of the medical board of Fordham Hospital (Bellevue and Allied Hospitals).

Child Welfare Exhibit.—The Child Welfare League is holding an exhibit in the interest of the thirty-two bills recommended by the Factory Investigating Committee at the Frances Building, 667 Fifth Avenue. Conferences are held at 4 p. m. daily, at which well-known welfare workers discuss the new measures and explain why their passage is necessary.

Diphtheria in School.—An outbreak of diphtheria in Public School 16, Williamsburg, has led to the closing of two class rooms by the Board of Health. There was a similar outbreak of diphtheria in the same school about a year ago and authorities are blaming the unsanitary condition of the building, especially the shutting off of light and air due to the erection of high buildings, for these outbreaks.

Amendments to the Sanitary Code.—The Board of Health has amended the Sanitary Code so as to require that after July 1, 1913, cream sold in New York must be produced from either grade A or grade B milk and that nuts, figs and dates used in making candy must be as good as when offered for sale without the candy combination. The object of this amendment is obviously to secure purer ice cream and candy. Another amendment requires that eggs known as "spots" shall be denatured as soon as discovered, thus making it impossible to sell them for food as has frequently been done. Still another provision makes it a misdemeanor to keep offensive fats, meat trimmings and bones in markets, hotels and restaurants. They are to be considered as garbage and if not disposed of at once will be seized and carted away by the city.

OHIO

New Officers.—Union Medical Association of the Sixth Councilor District at Akron, February 11: president, Dr. H. Blankenhorn, Orrville; secretary, Dr. J. H. Seiler, Akron (reelected for the thirteenth time).

Request that Occupational Diseases Be Reported.—Under the Thomas Bill, recommended by the Committee on Public Health, physicians will be requested, but not required, to report to the State Board of Health, all occupational diseases coming under their observation.

Hospital Notes.—Of the $150,000 required for the building fund of St. John's Hospital, Cleveland, $126.588.25 had been secured two days before the time for closing subscriptions.——On March 11 a campaign will be begun to raise $100,000 necessary to free St. Anne's Infant and Maternity Hospital, Cleveland, from the debt incurred three years ago.

Personal.—Dr. J. C. Lincoln, probate judge of Wood County for two years and a practitioner of Bowling Green for forty years, has closed his office and retired.——Dr. Herbert H. Bown, Pleasant City, has returned after a five months' trip to Europe.——Dr. James E. Welliver, Dayton, who has been ill with pneumonia, is reported to be improving.——Dr. J. Valentine Koch has been appointed assistant to the superintendent of the Dayton State Hospital.——Dr. R. G. Perkins, professor of hygiene in Western Reserve University, Cleveland, has been appointed city bacteriologist, vice Dr. W. T. Howard, resigned.

Cincinnati

Antituberculosis League Meeting.—At a recent meeting of the board of trustees of the Cincinnati Antituberculosis League, Dr. Samuel Iglauer was elected president and Drs. E. W. Mitchell and H. Kennon Dunham were elected vice-presidents.

Personal.—Dr. Samuel E. Allen, otolaryngologist of the Cincinnati Hospital has resigned.——Dr. A. C. Bachmeyer has been appointed assistant superintendent of the Cincinnati Hospital.——Dr. Alfred Friedlander has succeeded Dr. Allyn C. Poole as senior pediatrician to the Cincinnati Hospital.——Dr. Foster J. Boyd has been appointed physician to the Municipal Tuberculosis Hospital. Dr. Charles S. Rockhill, superintendent, will soon give up his private practice and reside at the hospital.——Dr. Lewis Heizer has been appointed chief medical inspector of schools.

Deprecate Commercialism in Tuberculosis Cures.—The following resolutions presented by Dr. George B. Orr have been adopted by the Cincinnati Academy of Medicine: "That the members of the Cincinnati Academy of Medicine ask the medical profession of America not to recognize any man or woman as a member of our profession, be he or she a native or foreigner, who possesses knowledge or material which will cure tuberculosis, who does not impart that knowledge voluntarily and give of that material free of monetary consideration to his brothers in the profession, without being asked for them; and who does not do this without delay in order that many human lives may be saved thereby. Be it further resolved, That the entire medical profession of the country be called upon to do this."

PENNSYLVANIA

State Responsible for Criminal Insane.—The Supreme Court has just rendered a decision to the effect that the state and not the county should pay for the maintenance of the criminal insane who are confined in the State Hospital at Norristown, Montgomery County. This decision means a saving of $4,000 yearly.

Personal.—Dr. Phoebe H. Flagler Hagenbach of Stroudsburg celebrated her eighty-first birthday, February 25. She has practiced medicine for the last thirty-four years and is a member of the Lehigh, Lycoming and Monroe County Medical societies.——Dr. E. L. Meyers, Wilkes-Barre, was seriously injured when his automobile plunged over an embankment, February 25.——Dr. R. W. McCafferty, physician to the Glen Mills School for Boys, has resigned.——Dr. N. Bell Drake has been elected a director and is to continue as superintendent of the Ellwood City Hospital.

Hospital Notes.—Application has been filed in the prothonotary's office for a charter for a hospital in Carlisle to be called the Carlisle Hospital. This application has been signed by the physicians of the city and is the result of a movement recently started by them to provide a hospital for Carlisle and Cumberland County.——The new hospital car of the Pennsylvania system, which is to be used in case of accident and is fully equipped with beds and emergency appliances, has been placed in service.——The trustees of the Scranton State Hospital have asked for an appropriation of $240,762.60.

Vaccination Commission Reports.—The Pennsylvania State Vaccination Commission, which was authorized by joint resolution of the General Assembly, June 14, 1911, and appointed several months later by the governor, has held a number of sessions covering the period of nearly two years, has heard fifty-eight witnesses, thirty of whom were physicians and has prepared two reports, one signed by the majority of the commission setting forth its findings in favor of vaccination and a minority report from those opposed. The commission will hold a final meeting on March 12, when the two reports will be formally signed for presentation to the legislature and the governor on the following day. The commission is composed of the following members: Emil Rosenberger, president of the Real Estate Title Insurance and Trust Co., chairman; Dr. William M. Welch, Philadelphia; Dr. Jay F. Schamberg, Philadelphia; Henry C. Lippincott, John Pitcairn, Porter F. Cope and Edward A. Woods, Pittsburgh.

Philadelphia

Hahnemann Plans Extension of Course.—Anticipating the new state law beginning Jan. 1, 1914, all graduates of medical schools in Pennsylvania will be required to complete a four-year course of study and then to serve for one year as intern in a hospital, the authorities of Hahnemann are preparing to begin an advance administration this fall. Their purpose is a six-year course of study and practical work. It is planned to add a college course including biology, chemistry, physics and modern languages other than English. It will be called the first-year course and will take the place of the course that first-year men heretofore have been obliged to take in some other school.

Adopts Higher Standard.—Of the Philadelphia medical schools, the Jefferson Medical College, the Medico-Chirurgical College, the Hahnemann Medical College and the Woman's Medical College have now gone on record as adopting the higher preliminary qualifications for medical students. In addition to completing the work in an accredited high school, the student will be required to take a year's work devoted to college courses in physics, chemistry, biology and a modern language aside from English. Some of the colleges are planning to give the work themselves in a year preliminary to the regular medical course. The University of Pennsylvania for three years now has been requiring for admission, two years of college work including the sciences above mentioned.

SOUTH CAROLINA

New Officers.—Aiken County Medical Association at Aiken, February 21: president, Dr. R. M. Hammond, Montmorenci; secretary-treasurer, Dr. M. H. Wyman, Aiken.——Chester County Medical Society at Chester: president, Dr. W. M. Love; secretary, Dr. J. G. Johnston, both of Chester.

Personal.—Dr. George T. Tyler has opened a hospital for surgical cases at Greenville.——Dr. W. J. Houseal, Newberry, appointed by the governor, superintendent of the State Hospital for the Insane, has refused to accept the appointment and Dr. J. W. Babcock, Columbia, remains in that position.

TENNESSEE

Medical Library Planned.—The Memphis and Shelby County Medical Society is raising a library fund. Its plan is to install a library in the downtown portion of the city where members of the society and the profession may rapidly gain access to the books and periodicals.

New Officers.—Carroll County Medical Society at Huntingdon: president, Dr. G. C. Bryant, McLemoresville; secretary, Dr. B. C. Dodds, Huntingdon (both reelected).——Mountain City Academy of Medicine and Surgery at Chattanooga: president, Dr. O. W. James; secretary, Dr. E. J. Cardwell.

Personal.—Dr. S. W. Woodyard, Greeneville, has recovered from his recent attack of influenza and resumed practice.——Dr. W. D. Poston, Brownsville, was stabbed by a negro recently and is said to be in a serious condition.——The degree of doctor of laws was conferred on Dr. John A. Witherspoon, Nashville, by the University of Georgia, January 29.——Dr. W. G. Frierson, Shelbyville, announces his retirement from practice.

WISCONSIN

Sanatorium Assured.—The Eau Claire Branch of the Wisconsin Antituberculosis Society has guaranteed $1,500 to equip the proposed sanatorium for tuberculosis. This action assures the immediate erection of the building.

Personal.—Dr. C. J. Coffey, Milwaukee, has gone to Europe. ——Dr. Frank S. Wiley, Fond du Lac, entertained sixty of his friends among the medical fraternity of Fond du Lac city and county, at a dinner, February 20, in celebration of the thirtieth anniversary of his graduation from Rush Medical College, Chicago.

Council Against the Gospel of Health.—The finance committee of the Common Council of Milwaukee has failed to approve the appropriation of $2,500 asked by Health Commissioner Kraft for the publication of the monthly organ of the department, the *Healthologist*, as it did not seem to recognize the necessity for this expenditure and also considered the issuance of the magazine at public expense illegal.

WEST VIRGINIA

New Governor a Physician.—Dr. D. D. Hatfield, English, the first medical man to be elected governor of the state, was inaugurated last month.

Small-Pox Disappeared.—Berkeley Hospital for Small-Pox has been closed, the last patient having been discharged. During the prevalence of small-pox about forty patients were treated in the county, and three cases in Martinsburg. No deaths resulted.

New Officers.—Little Kanawa and Ohio Valley Medical Society at Parkersburg: president, Dr. W. S. Link; secretary, Dr. Marvin R. Stone, both of Parkersburg.——Brooke County Medical Association at Wellsburg: president, Dr. B. F. Harden, Wellsburg; vice-president, Dr. W. T. Booher, Bethany.

State Sanatorium.—The sanatorium for the cure and treatment of tuberculosis established by the state on a farm of 630 acres at Terra Alta, Preston County, in the heart of the Allegheny Mountains, was opened January 15. Three buildings accommodating sixty patients have been erected, one an administration building and two pavilions. The sanatorium is supplied with water from mountain springs and a dairy and poultry farm is to be conducted in connection with the institution. Dr. E. E. Clovis has been appointed superintendent.

GENERAL

Safeguarding America Against Disease.—To guard against the introduction of plague and yellow fever through tropical fruit importations between April and November, Surgeon-General Blue, U. S. P. H. S., has ordered Surgeon J. H. White, New Orleans, to proceed to Belize, Puerto Cortez, Tela and Ceiba, Honduras; Livingston, [illegible] Puerto [illegible] Guatemala; Bocas del Toro, [illegible] and Kingston and Port A[illegible] conditions and precautions

Attacks "Diploma Mill."—The Illinois State Board of Health charges the "Western University" with using the mails to defraud. According to Dr. Egan, this "diploma mill" was organized in 1897 and for three years did business openly in Chicago, issuing diplomas through correspondence. From 1900 to 1908 nothing was heard of the University, but about two years ago letters began to be received from British India, addressed to the Western Medical School, inquiring the price of medical degrees. The university is said to have offered for sale degrees in surgery, medicine and dentistry to residents of China and India at a flat rate of $100.

Abstract of Surgery.—*Surgery, Gynecology and Obstetrics* with its February issue begins the publication of a supplement called the *International Abstract of Surgery* which is published in collaboration with French and German and English surgical journals. The editors are Dr. Franklin H. Martin, Chicago; Mr. B. G. A. Moynihan, Leeds, England; Dr. August Bier, Berlin, and Dr. Paul Lecène, Paris, together with a large consulting and collaborating editorial staff. The abstracts and bibliography take up 128 pages of the February issue considered under the following general heads: Surgical technics; surgery of the head and neck; surgery of the chest; surgery of the abdomen; surgery of the extremities; orthopedic surgery; surgery of the nervous system; diseases and surgery of the skin and appendages, and miscellaneous; gynecology; obstetrics; genito-urinary surgery; surgery of the eye and ear, and surgery of the nose, throat and mouth. This extensive undertaking makes an excellent appearance in its first issue and will prove of great practical value.

University of Missouri Medical Bulletins.—The University of Missouri has begun the publication of a series of popular medical bulletins, which should be of value to both the profession and the public in an educational way, concerning the topics of preventive medicine. The first bulletin is by Dr. O. W. H. Mitchell, Assistant Professor of Pathology and Bacteriology in the university, and is on the subject of "Bacteria and Disease." It is a clearly and simply written article that anyone may understand. The pamphlet gives a brief history of the discovery of bacteria and a discussion of their characteristics and varieties, a brief explanation of the subject of immunity or body-resistance, and methods of destruction of bacteria, sterilization, disinfection, etc. It also gives a list of references to elementary and popular articles and books on bacteria and publications of a more advanced and technical nature, together with a glossary of terms used in the article in connection with bacteria and disease. Among the other articles to be published in this series are pamphlets on preventing typhoid, the early recognition of contagious diseases in school children, and eye, nose and throat troubles in children. These pamphlets will be distributed free to those requesting them, and should prove a valuable and authoritative means of educating the public in health matters.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 22, 1913.

Career of Dr. Wilson of the National Antarctic Expedition, 1910

The career of Edward Adrian Wilson, B.A., M.B. (Cantab.), head of the scientific staff of the national Antarctic expedition, who, after reaching the pole, perished in the tent with Captain Scott and Lieutenant Bowers, has a special interest for physicians. Dr. Wilson was the son of a physician, and was educated at Cambridge, where he had a distinguished career. In 1894 he took a first class in the natural science tripos. Then he turned his attention to medicine and entered St. George's Hospital. Of a philanthropic and religious bent, he worked at the mission of his college in the East End of London. In March, 1898, he developed pulmonary tuberculosis, which was thought to be due to overwork. He went to Davos, where he slowly recovered. He graduated M.B. in 1900, but in consequence of the attack he had undergone he adopted the open-air life of a naturalist, and in 1901 he was appointed surgeon, zoologist and water-color artist to Captain Scott's first Antarctic expedition. His drawings of polar scenery excited great admiration, but his collection of zoologic specimens, which appealed only to specialists, was of greater importance. In a lecture delivered at St. George's Hospital he asserted, as a result of his experience on the expedition, that vegetables neither prevent nor cure scurvy, but that fresh meat does. In 1905 he did important work on an inquiry into grouse disease. On the last expedition he was appointed head of the scientific staff, and appears to have been most successful in the collection of specimens. In spite of the difficulties encountered in the return journey, the specimens were never abandoned, and those found in the hut with the three bodies weighed 35 pounds. The story of the tragic end has been told to the world. It is only necessary to add that Dr. Wilson was a man of simple and straightforward character, with a fund of genial humor which made him the life of the expedition. He has left a memory of which the British nation in general and the medical profession in particular will long feel proud.

The British Medical Association and the National Insurance Act

After the defeat of its policy, the dominant party in the British Medical Association seems inclined to fight what may be termed a rear-guard action. The association has issued a circular to physicians in order to ascertain whether the conditions of service are such that practitioners in large numbers will leave the panels in April when their contracts expire, or whether the profession is going to accept the panel system as an accomplished fact and wishes the association now to use its machinery for the purpose of remedying the defects found by experience in the act and regulations. In order that the association may have the necessary information, answers are requested to the following questions: "Are you giving service under the national insurance act? Did you accept service willingly or unwillingly? Are you satisfied with the conditions of service and remuneration so far as you are able to judge them? If not, will your dissatisfaction determine you to decline to renew your contract with the local insurance committee at the termination of the provisional three months, provided that a sufficient number of practitioners in your area will do the same? If dissatisfied, with what conditions of service are you dissatisfied and what alteration do you consider should be made therein? If not on the panel, have you any wish or intention to go on? If the government sought to overcome the opposition of the profession in any locality by appointing whole- or part-time officials to treat insured persons, do you know of practitioners in your division area of whom you have a reasonable certainty that they would accept such appointments, and what is their approximate number? If not on the panel, will you be good enough to supply particulars as to the numbers of insured persons who have been attended by you since Jan. 15, 1913, in spite of the fact that they will have to pay you private fees?"

The National Insurance Act: Removal of the Grievance of Too Much Clerical Work

The extraordinary and unnecessary amount of clerical work required of physicians under the national insurance act which interferes with their professional work and keeps them up at night until the small hours of the morning, described in a previous letter, is about to be remedied. As a result of conferences held by insurance commissioners with representatives of the National Insurance Practitioners' Association, the following official statement has been made: The issue of the red medical ticket was a temporary measure required by special circumstances incidental to the coming into operation of the act. After a physician has sent in a form accepting an insured patient for treatment he will not be required to fill up any new form for this person as long as he retains him on his list. Day books will be discontinued and a simple card system will be used for keeping a record. The number of entries will be reduced. In particular the physician will not be required to enter the insured person's name, society, or society number on the card more than once a year. The issue of prescription forms in triplicate will be discontinued: only one form will be given to the patient to give to the chemist and no physician need retain a duplicate for his own use unless he wishes. When physicians on the panel so desire, payments will now be made to them on account of insured persons on their lists.

The Dangerous Neglect of Vaccination

The relaxation of the vaccination law and its dangerous consequences have been described previously in The Journal. Speaking at the annual dinner of the public vaccinators of England and Wales, Dr. Arthur Maude, the president, complained that though the public vaccinators were doing an important work they received no assistance from the government. The importance of vaccination was recognized all over the world—in Japan, Servia, Mexico and Russia. The only place in which is was not recognized was England. The proportion of unvaccinated people now amounted to about 50 per cent. of the population, and in many towns was still larger. They might do something in the way of isolation when there was a limited outbreak, but the outbreak which would come would not be limited and the hospital accommodations would be totally inadequate.

a siphon. The injured soldiers and officers have told terrible things about shrapnel fatalities.

The *Spitzgeschoss* (pointed bullets) did little harm even in the brain. This is shown by the fact that in the wards every fourth or fifth patient is injured in the head, and bullets have penetrated the brain. These patients are improving.

Dr. Widder saw one patient, who did not sleep or talk, but only sat and stared before him. The bullet had penetrated the right lobe of the brain. This patient died in five days.

Injuries to the lungs were relatively of benign character. It was unfortunate that the Roentgen apparatus of the Turks was not in condition to be of any service to us.

HOSPITAL EQUIPMENT

In general the hospital equipment of the Turks left much to be desired in accommodations, instruments and means for carrying the wounded from the battle-field. The contrary can be said of the Servians. They have proper conveyances, fine hospitals and even a large stock of coffins. In every Servian hospital nursing was done by women of the aristocracy. Dainty white hands bathed soldiers who had not been able to wash themselves for weeks. These women even helped cut the hair of the soldiers. They brought bed-linen and pillows, and distributed preserves, fruits and candies among the soldiers.

In the temporarily transformed schools the "better" places were kept for the physicians, who slept in cold rooms, on simple sheets laid on a straw mat on the floor. Hundreds of pretty women are washing and ironing dressings, scrubbing the floors, etc. They work in white coats, their heads dressed, each with a red cross on the forehead. This unexampled discipline and sincere love of compatriots is moving. It is not vanity but the pure love of the Fatherland that drives them to do the meanest work with such zeal and fervor. Dr. Widder said that the wounded soldiers do not cry here. You cannot hear a sigh even. They smile, because they think that they are all heroes. They withstand the most painful operations without a word. In this they are animated by the dear, diligent ladies surrounding them.

If as General Surgeon Soubbotich said, this war is the war of Humanity, he must have had in mind the self-sacrificing work of the conscientious medical staff and the noble work of the Red Cross women. It would be difficult to find anything humane in the whole war besides these.

Association News

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

The Proposed Change in Name

GEORGE H. SIMMONS, M.D., LL.D.

CHICAGO

Explanatory Note:—This Abstract of an Address before the Conference of State Secretaries is Republished from the American Medical Association Bulletin of Nov. 15, 1912, on the Request of the Judicial Council. The House of Delegates Referred the Report of the Committee to Formulate Amendments to the Constitution and By-Laws to Extend Membership, Presented at the 1912 Session (Journal, June 15, 1912, p. 1899) to the Judicial Council with Power to Confer with Constituent Associations. The Council, after Careful Consideration, Endorses the Proposed Change and Takes this Means of Bringing the Subject to the Constituent Associations as well as Directing to it the Attention of the Members.

I have been asked to discuss the present conditions of membership in the American Medical Association and the proposed change, which has been under discussion recently. While this is not directly related to the object of this conference, the discussion of uniform regulation of state membership, it is so closely connected with it that I cannot refuse to take advantage of the opportunity of discussing the question before such a large representation of state secretaries.

To get a clear understanding of what the present term "members" of the American Medical Association means, it is necessary to go back a little in the history of the Association.

The American Medical Association always has been a delegated body; only "delegates" ever had a right to take part in its proceedings.

"Permanent members" was a term originally applied to those delegates who connected themselves permanently with the Association after they had served as delegates. "Permanent members," however, had no rights except those of attending the meetings and taking part in the scientific work. In 1883, The Journal was started and the following year, for the purpose of increasing the circulation of The Journal, there was created another class: "Members by Application." A member of any so-called affiliated society could become a "member by application" simply by making application for membership and paying the annual dues. The difference between "members by application" and "permanent members" was that the latter had been delegates, whereas the former became members simply by making application. Neither "permanent members" nor "members by application" had vote or voice in business meetings.

MEMBERSHIP IN THE A. M. A. TO-DAY ON THE SAME BASIS AS THE FORMER "MEMBERS BY APPLICATION"

Briefly, we have the following situation:

1. The voting membership of the organization is the combined membership of all the 2,000 (more or less) component county societies, amounting approximately to 70,000 members. These elect the delegates to the House of Delegates of the state associations; they in turn elect the delegates who form the House of Delegates of the American Medical Association. Before 1901 the delegates to the American Medical Association were elected, or appointed, by the "affiliated" societies, which included local, district and state societies. Since 1901, that is, since the reorganization, the delegates to the national body are elected not by local, district and state societies, but by the state societies alone.

2. The so-called "members of the American Medical Association" are the direct successors of the old "members by application." By their payment of dues and their subscriptions to The Journal, they were and are to-day the supporting or contributing group of the members of the organization.

3. The House of Delegates is composed of approximately 150 members, who are elected by the various state Houses of Delegates, which are in turn composed of delegates elected by the members of the component county societies. The House of Delegates of the American Medical Association, therefore, is created by, and represents the combined membership of all the county societies of all the states; it is not elected by, nor does it represent, the present "members of the American Medical Association" as such; it never has.

The result is that we have two classes which could be called members. First, the actual, logical memberships of 70,000, usually designated as "the membership of the organization." Second, the 36,822 contributing or supporting members, who are designated as "members," although these "members of the American Medical Association" have no more privileges than have all members of the organization, except the right to take part in section work. This present situation I have had shown on the accompanying chart (Chart 1). The membership of the American Medical Association, at present 36,822, is an inner circle of the membership of county societies, while the House of Delegates is a still smaller circle composed of those who have been elected to represent the members of the organization of the whole country.

Now the situation itself is perfectly logical and is in every way to be commended. The trouble is that we have not named our groups accurately. Those whom we now call "members of the American Medical Association" are really those members of the organization who, in addition to supporting their county and state associations, also contribute to the support of the American Medical Association, while for the actual membership of 70,000 members we have no distinctive name.

The change that has been proposed is not a change in condition at all. It is simply a change in name. It is proposed to designate the 70,000 members included in the large outer circle (Chart 2) as "members of the American Medical Asso-

A. M. A. MEMBERSHIP

ciation," which they really are and always have been, while those included in the inner circle (that is, those members in good standing of their county and state societies, who also pay $5 a year to support the work of the American Medical Association) are to be called "fellows of the American Medical Association" instead of "members." This will make no change in the membership standing or relations of any man. If this suggestion is adopted, all members in good standing in their state organizations will be designated as "members of the American Medical Association," while those members who contribute $5 a year to support the work of the Association will be designated as "fellows of the American Medical Association." In other words, those who are now known as "members" of the American Medical Association will be known as "fellows" of the American Medical Association, while the term "members" will be applied to the entire, combined membership of the component county societies of the whole country.

This plan has several advantages. In the first place it will give us a name for the entire membership of the organization, which we have never had before. Before 1901 they were referred to as members of "affiliated" societies, and since then they have been called, for lack of a distinctive name, "members of the organization." Another advantage will be that it will make clear that the voting power lies with the 70,000 members and not with the 36,822 "fellows." When this plan was first proposed, some got the impression that the intention was to compel the 70,000 members of the county societies to become "supporting members" of the American Medical Association, as the term is now understood. This, of course, would be a ridiculous proposition. The proposed change contemplates leaving membership conditions exactly as they are; it contemplates changing the name, and not the relation.

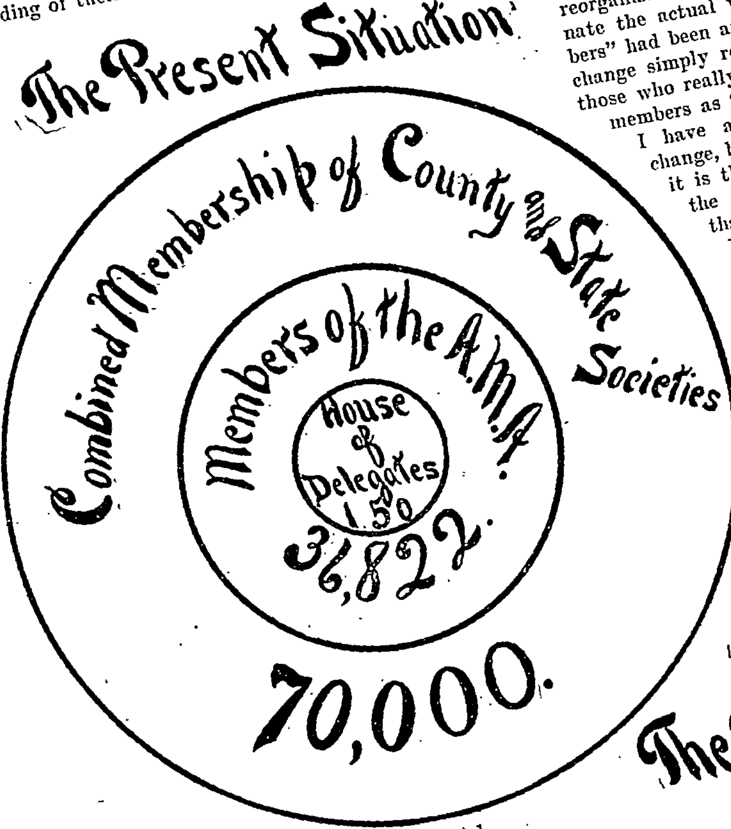

Chart 1

One great advantage prior to the reorganization of the American Medical Association in 1901 was the fact that we had no name by which to designate the delegates. As soon as the name "House of Delegates" was adopted, then the function of the delegates became clear at once. The Association also has labored under the disadvantage, ever since its reorganization, that there has been no name by which to designate the actual voting membership, because the term "members" had been applied to the supporting body. The proposed change simply recognizes this fact, designating as "members" those who really are members, and designating the supporting members as "fellows."

I have already given some reasons for making the change, but there is another and more important; in fact, it is the paramount reason. Up to the present time, the members of the organization have not realized that they are, in reality, members of the American Medical Association. They regard the American Medical Association as something entirely apart from them, something in which they have no interest. These members of the organization are through their elected representatives responsible for what the American Medical Association is doing, or what it ought to do and is not doing, but they do not realize this, hence they are not interested. They do not appreciate that the House of Delegates of the American Medical Association, which they elect, is the body that is doing the work through the officers, trustees, councils, etc., which they, through their representatives in the House of Delegates of the American Medical Association, select. While only a change in name, I think the subject is of the utmost importance. I hope that all of you will look into it carefully, so as to understand exactly what is intended, and then will expla

first opportunity.

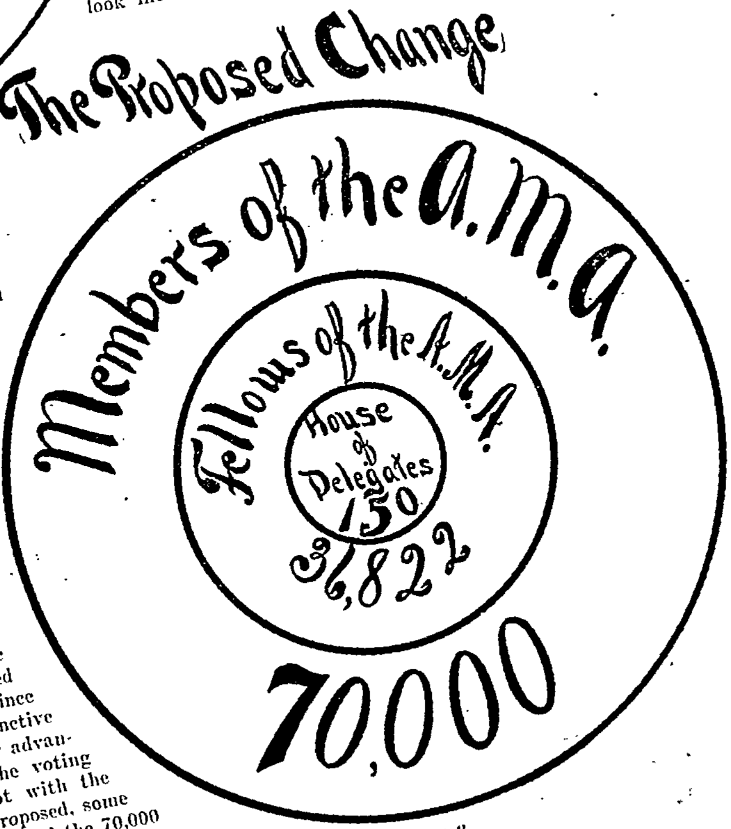

Chart 2

HOTELS AT MINNEAPOLIS

Announcement of Hotels and Rates for the Annual Session of the American Medical Association

The local Committee on Arrangements for the Minneapolis session, June 17-20, recommends to the members of the Association the hotels shown in the accompanying table. First are given the hotels selected as headquarters for the sections. A few St. Paul hotels, so designated, are included; all the others are in Minneapolis. In addition, the rooms in the dormitories on the University Campus will be available for rental.

The meetings will be held in the University buildings situated between Minneapolis and St. Paul so that members may lodge in either Minneapolis or St. Paul.

It is suggested that members arrange direct with hotels as early as possible. The Chairman of the Committee on Hotels, Dr. S. Marx White, Donaldson Building, Minneapolis, will be pleased to answer any special questions concerning hotel accommodations, and to assist members in the matter.

Other announcements concerning the session have appeared in The Journal during the past four weeks, on pages 460, 535, 615 and 680.

Hotel, Section Headquarters and Street Address	No. of Rooms	Without Bath		With Bath	
		Single	Double	Single	Double
Radisson—*General Headquarters*—Seventh St., bet. Nicollet and Hennepin	320	$1.50	$2.50	$2.50 to $5.00	$6.00 to $7.00
West—*Practice of Medicine*—Fifth St. and Hennepin Av.	309	1.50 to 3.00	3.50 to 4.00	2.00 to 4.00	3.50 to 6.00
Leamington—*Surgery*—1013 Third Av., South	600	1.50	2.50	2.50 to 5.00	5.00 to 7.00
Andrews—*Obstetrics, Gynecology and Abdominal Surgery*—Fourth and Hennepin	186	....	....	1.50 to 3.00	2.50 to 4.00
Dyckman—*Ophthalmology*—Sixth St., bet. Nicollet and Hennepin	175	....	....	2.00 to 3.00	4.00 to 6.00
Plaza—*Laryngology, Otology and Rhinology*—1700 Hennepin Av.	100	....	....	2.00 to 5.00	3.00 to 7.00
Hastings—*Diseases of Children*—Twelfth St. and Hawthorne Av.	127	....	....	1.50 to 2.00	2.00 to 3.00
Majestic—*Pharmacology and Therapeutics*—Seventh and Hennepin	100	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Camfield—*Pathology and Physiology*—Eighth St. and First Av., South	96	....	....	1.00 to 2.00	2.00 to 3.00
Nicollet—*Stomatology*—Washington and Nicollet Avs.	136	1.00 to 1.50	2.00 to 2.50	2.00 to 2.50	3.00 to 3.50
Maryland—*Nervous and Mental Diseases*—Grant and Vine Place	200	....	....	1.50 to [illegible]	2.50 to 4.00
Elgin—*Dermatology*—Eighth St. and Hennepin Av.	150	1.00	1.50	1.50 to 2.00	2.00 to 3.00
Rogers—*Preventive Medicine and Public Health*—27 Fourth St., South	200	1.00 to 1.50	2.00 to 3.50	2.00 to 3.50	3.00 to 5.00
Vendome—*Genito-Urinary Diseases*—19 Fourth St., South	185	1.00 to 2.00	2.00 to 3.00	2.50 to 3.00	3.50 to 4.00
Waverly—*Hospitals*—1107 Harmon Place	80	....	....	1.00	2.00
St. Paul (St. Paul)—*Orthopedic Surgery*—Fifth and St. Peter Sts.	360	1.50	2.50	2.50 to 5.00	4.00 to 7.00
Other Hotels					
Aberdeen (St. Paul)—Dayton and Virginia	200	....	....	1.50 up.	3.00 up.
Allen—200 Third St., South	65	1.00	1.50	2.00	2.50
Beaufort—112 Third St., South	140	.50	1.00	1.00 up.	2.00 up.
Berkley—First Av. and Thirteenth St., South	103	1.50	2.50	2.00	3.00
Carleton—20 Eighth St., South	50	1.00	2.00	1.50	3.00
Clinton—Fourth Av., South., and Grant St	65	....	....	2.00	3.50
Commercial—1 Central Av.	40	1.00	1.50	1.50	2.00
Curtis Court—309 Tenth St., South	200	....	....	1.00 to 2.50	2.00 to 5.00
Empress—316 Central Av.	20	1.00	1.50	2.00	3.00
Frederick (St. Paul)—Fifth and Cedar Sts.	100	1.00	2.00	1.50 up.	2.50 up.
Garrick—2½ Seventh St., North	27	1.00	2.00	....	....
Golden West—301 Washington Av., South	80	.75 to 1.25	1.50 to 2.50	1.50 to 2.50	2.00 to 3.00
Hampshire Arms—Fourth Av., South, and Ninth St.	350	1.00	1.50	1.50 up.	2.00 up.
National—Second Av., South, and Washington	200	1.00 to 1.50	2.00 to 3.00	1.50 to 3.00	3.00 to 5.00
Ogden—Twelfth St. and Mary Place	84	....	....	2.00	2.50
Pauly—1-3-5 Nicollet Av.	50	1.00	1.50	1.50	2.50
Rosslyn—707 Summit Av.	70	....	....	1.00 to 1.50	2.50 to 4.00
Ryan (St. Paul)—Robert St.	300	1.00 to 1.50	2.50 to 4.00	2.00 to 4.00	3.00 to 6.00
Revere—316 Second Av., South	100	1.00	1.50	1.50	2.50
Southern—822 Fourth Av., South	50	.75	1.50	1.50	2.00
Stratford—1200 Nicollet Av.	40	1.50	3.00	....	....
Summers—Fourth Av. and Tenth St.	75	.75 to 1.00	1.00 to 1.50	....	....
Willard (St. Paul)—Tenth and St. Peter's Sts.	200	.75	1.25	2.00 to 4.00	3.00 to 6.00
Williston—500 Tenth St., South	60	1.00	1.50	2.00	2.50

Marriages

Stuart Harris Sheldon, M.D., Portland, Ore., to Miss Marion Louise Smith of St. Paul, Minn., February 26.

David Duke Todd, M.D., Calumet, Mich., to Miss Thayer Thompson of Hyde Park, Chicago, February 19.

Harry Z. Hibshman, M.D., to Miss Charlotte Elizabeth Mathews, both of Philadelphia, February 19.

L. Lafayette Bond, M.D., Denison, Ia., to Miss Florence Faulkner of Council Bluffs, Ia., January 29.

John Tolson O'Ferrall, M.D., Laurel Miss., to Miss Gladys Moulton of New Orleans, La., January 15.

William Worth Hale, M.D., to Miss Helen Marie Evans, both of Washington, D. C., February 13.

Joseph Tate Smith, Jr., M.D., Cleveland, O., to Miss Mary K. Hutchins, at Baltimore, February 20.

Spiro Sargentich, M.D., to Miss Jeanette Maxine Meiner, both of Portland, Ore., February 13.

Alpha R. Sawyer, M.D., to Miss Dorothy A. Parker, both of Roslindale, Boston, February 19.

George Alfred Mauer, M.D., Meriden, Ia., to Miss Albia Koss of Riverside, Ia., February 12.

Deaths

John Berry L'Hommedieu, M.D. New York University, New York City, 1890; a member of the American Medical Association; first deputy health officer of the Port of New York; for several years a member of the staff of Bureau of Municipal Diseases of the State Health Department; died suddenly at his home in the Quarantine Station, Staten Island, N. Y. February 21, from heart disease, aged 46.

J. B. Shawgo, M.D. Bennett Medical College, Chicago, 1877; of Quincy, Ill.; a member of the Illinois State Medical Society; a veteran of the Civil War; for four years an alderman of Quincy and president of the board of directors of the Public Library, and for twenty years chairman of the board of commissioners of the House of Correction; died in a hospital in Jacksonville, February 19, aged 69.

Walter Lawrie Whann, M.D. Starling Medical College, Columbus, O., 1857; Jefferson Medical College, Philadelphia, 1868; for many years a member of the American Medical Association; and for more than half a century a practitioner of Franklin and Venango County, Pa.; died at his home in San Diego, Cal., about February 20, from senile debility, aged 93.

DEATHS

William James Callan, M.D. Long Island College Hospital, Brooklyn, N. Y., 1892; for twenty-five years a professor of elocution and English literature in Catholic institutions of Brooklyn and vicinity; formerly connected with the Brooklyn office of the New York Department of Health; died in a convent at St. Joseph's, Sullivan County, N. Y., February 13, aged 47.

William Conrad Wile, M.D. New York University, New York City, 1870; for many years publisher and editor of the *New England Medical Monthly*; consulting surgeon to the Danbury (Conn.) Hospital, and founder and treasurer of the Danbury Printing Company; a veteran of the Civil War; died at his home in Danbury, February 21, aged 66.

Kingman B. Page, M.D. University of Vermont, Burlington, 1887; a member of the American Medical Association, American Urological Association and New York Academy of Medicine; a member of the attending staff of St. Marks and the People's hospitals, New York City; died at his home in New York, February 19, aged 49.

Harvey Daniel Hill, M.D. University of Michigan, Ann Arbor, 1867; a veteran of the Civil War and later in charge of the government dispensary at Springfield, O.; for three terms a member of the Kansas legislature from Butler County; died at his home in Baldwin, Kan., February 8, aged 73.

William W. Holmes, M. D. Barnes Medical College, St. Louis, 1903; (license, Iowa, practitioner, 1886); a practitioner of Denison, Iowa, since 1873; a veteran of the Civil War; superintendent of the Denison Hospital; died in that institution, February 8, from malignant disease, aged 70.

John F. Duvall, M.D. Physio-Medical College of Cincinnati, 1868; Eclectic Medical University, Kansas City, Mo., 1902; a member of the faculty of the latter institution; a veteran of the Civil War; died at his home in Kansas City, Mo., February 15, from cerebral hemorrhage, aged 66.

William C. MoCurdy, M.D. University of Medicine, Indianapolis, Ind., 1898; physician and health officer of Pawnee County, Kan., and health officer of Larned; president of the Larned Hospital Association; died at his home, February 14, after an operation for kidney disease, aged 44.

John C. Conner, M.D. Cincinnati College of Medicine and Surgery, 1877; died at his home in Crescent City, Ill.. February 11, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, while despondent as the result of ill health, aged 68.

Minot A. Steele, M.D. Albany (N. Y.) Medical College, 1890; a member of the Rhode Island Medical Society; medical examiner of Portsmouth, R. I.; died in Newport, February 17, from erysipelas, following the bite of a dog about two weeks before, aged 45.

Albert P. Kadison, M.D. University of Munich, Bavaria, 1874; is said to have been the first Jewish physician in Chicago; known as "the little father of the Ghetto," active in Jewish social work; died at his home in Chicago, February 26, aged 78.

Henry O. Ritter, M.D. Louisville (Ky.) Medical College, 1896; of Orangeville, Ind.; died at his home, February 15, from the effects of a gunshot wound, self-inflicted, it is believed with suicidal intent, while delirious as the result of an injury, aged 46.

John Headland, M.D. Physio-Medical College of Indiana, Indianapolis, 1886; a member of the American Medical Association; at one time mayor of Galva, Ill.; died at the Peoria Sulphur Springs Sanitarium, February 12, from heart disease, aged 50.

Alfred James Brown, M.D. Bellevue Hospital Medical College, 1877; local surgeon at Higbee, Mo., for the Chicago & Alton and Missouri, Kansas & Texas railways; died suddenly in his store in Higbee, February 17, from heart disease, aged 56.

Israel W. Fulton, M.D. Washington University, Baltimore, 1872; a Confederate veteran; a practitioner of Indian Territory and Oklahoma for more than forty years; died at his home in Ardmore, February 14, from pneumonia, aged 66.

Ulysses P. White, M.D. College of Physicians and Surgeons, Baltimore, Md., 1894; for several years local surgeon of the Santa Fe system at Artesia, N. Mex.; died at his home in Artesia, February 3, from cerebral hemorrhage, aged 47.

James Jeremiah Williams, M.D. Bellevue Hospital Medical College, 1874; a member of the consulting staff of Bellevue Hospital; died at his home in the Bronx, New York City, February 12, from cerebral hemorrhage, aged 67.

George White McClure, M.D. Rush Medical College, 1900; a member of the American Medical Association; formerly of Cartersville, Mo.; died at his home in Springfield, Mo., February 17, from tuberculosis, aged 35.

Herbert Work Ferry, M.D. College of Physicians and Surgeons, Chicago, 1904; of Poland, O.; a veteran of the Spanish-American War; died at his home in Poland, O., February 14, from pneumonia, aged 33.

W. W. Ashton, M.D. University of Louisville, Ky., 1859; a Confederate veteran; one of the oldest practitioners of Rapides Parish, La.; died at his home in Alexandria, February 16, aged 75.

William Meyer, M.D. University of Jena, Austria, 185—; for more than thirty years a practitioner of California; died at his home in National City, February 16, from senile debility, aged 83.

Daniel S. Coleman, M.D. University of Wooster, Cleveland, O., 1869; one of the oldest practitioners of Knox County, O.; died at his home in Howard, February 15, from nephritis, aged 69.

Adolph Kantrovitz, M.D. Imperial University of Warsaw, Poland, 1862; a member of the Medical Society of the State of New York; died at his home in New York City, in December last.

William A. Gabbert, M.D. Eclectic Medical Institute, Cincinnati, 1875; of Paris, Ill.; died at the home of his brother in Bloomington, Ill., February 13, from arteriosclerosis, aged 65.

Robert Christy Gibson, M.D. University of Pennsylvania, Philadelphia, 1876; fotmerly of Pittsburgh; died at his home, in Chicago, February 14, from cerebral hemorrhage, aged 65.

Charles Clark Willets, M.D. Jefferson Medical College, 1882; of Sunbury, Pa.; died at the Mary M. Packer Hospital in that city, February 10, from cerebral hemorrhage, aged 56.

Curtis T. Fenn, M.D. Rush Medical College, Chicago, 1866; a member of the Illinois State Medical Society; died at his home in Chicago, February 21, from senile debility, aged 79.

William R. S. Cornell, M.D. University of Louisville, Ky., 1880; for a time teacher in the Joplin (Mo.) Medical College; died at his home in Paola, Kan., February 1, aged 63.

William H. Shaw, M.D. Starling Medical College, Columbus, O., 1870; for twenty-five years a practitioner of Dayton; died at his home in that city, January 4, aged 68.

Joseph T. Jarboe, M.D. College of Physicians and Surgeons of Baltimore, 1889; died at his home in Hagerstown, M., February 11, from nephritis, aged 58.

John H. Kochenderfer, M.D. Starling Medical College, Columbus, O., 1885; a veteran of the Civil War; died at his home in Galion, O., February 16, aged 71.

Joseph W Walters (license, Ohio, 1896); a practitioner of Ada for more than half a century; died at his home, February 14, from senile debility, aged 83.

George William Johnson, M.D. Vanderbilt University, Nashville, Tenn., 1875; died at his home in Adairville, Ky., February 17, from heart disease, aged 70.

William A. Stoneburner, M.D. Starling Medical College, Columbus, O., 1891; died at his home in Roseville, O., February 5, from heart disease, aged 52.

Ezra A. Robinson, M.D. University of Vermont, Burlington, 1881; died suddenly at his home in Genoa, Ill., February 14, from heart disease, aged 59.

George Stephen Cahill, M.D. Dartmouth Medical School, Hanover, N. H., 1891; died at his home in Cambridge, Mass., Dec. 24, 1912, aged 48.

Melville Hutchinson Criswell, M.D. Hahnemann Medical College, Chicago, 1891; died at his home in Cassopolis, Mich., Dec. 14, 1912, aged 49.

Stonewall J. Alsman, M.D. Barnes Medical College, St. Louis, 1904; died at his home in Pleasantville, Ind., Dec. 12, 1912, from tuberculosis.

Charles S. Brower, M.D. College of Physicians and Surgeons, Baltimore, 1880; of Phoenicia, N. Y.; died in Kingston, N. Y., Dec. 15, 1912.

George W. Davis, M.D. University of Maryland, Baltimore, 1869; died at his home near Pleasantville, Md., January 19, aged 69.

Albert V. D. Collier, M.D. [illegible] (N. Y.) Medical [illegible] 1866; of Catskill, N. Y.; [illegible] ny, N. Y., Dec. [illegible] aged 75.

George Cowles [illegible] died at his home in [illegible]

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

ANTIMERISTEM-SCHMIDT FOR CANCER

Dr. M. Childress, Oskaloosa, Iowa, writes:

"Do you know anything about the cancer serum 'Antimeristem-Schmidt?' I have two or three patients who have had operations for cancer and either have a recurrence or in all probability will have. If there is anything that will do any good in such cases I would like to use it. The only way to get this remedy is to cable money for it to the maker and I do not feel like having the people give up nearly a hundred dollars for something I know nothing about. Please inform me either through The Journal or by letter if you can give me anything trustworthy in regard to it."

Antimeristem-Schmidt is a preparation claimed to be useful in the treatment of inoperable cancer and as a supplementary treatment after operations for cancer. The originator, Dr. O. Schmidt of Cologne, and the manufacturer, Mr. W. Schmidt, as we understand, do not recommend this treatment as a substitute for operation. The treatment is founded on a theory advanced by Dr. O. Schmidt that the cause of cancer is found in a fungus, *Mucor racemosus*, which, Schmidt at first asserted, carried a protozoon which he regarded as the real cause of the disease.

The "serum," or rather the vaccine, is prepared from cultures from this fungus. Schmidt claims that he has been able to produce malignant tumors by the injection of cultures of this fungus derived from cases of carcinoma and sarcoma. Careful investigations by the Heidelberg Institute for Cancer Research have failed to show the existence in cancer of any form of fungus, especially of *Mucor racemosus*, in the tissues of malignant tumors. Other experiments made with the preparations furnished by Schmidt have failed to show in any case the production of a tumor in healthy animals (mice and rats).

Professors Wasielewski and Wülker[1] conclude therefore that the foundation of Schmidt's hypothesis of cancer formation is lacking and that there is no justification for designating his Antimeristem treatment as specific. Extensive trials of the remedy in clinical work have shown that this treatment is without effect.

In 1911 Dr. K. Kolb[2] conducted experiments with this treatment in the wards of O. von Herff, at Basel. His experience with inoperable carcinoma of the cervix showed not the slightest influence on the tumor. In a second report in 1912, Kolb refers to the failures of other observers and gives abstracts of three cases. In some cases temporary improvement was noted, but the same phenomenon has been observed in other cases in which no specific treatment was applied.

An example of the ease with which a false conclusion may be drawn in regard to the action of a remedy in inoperable cancer, a case reported by Kolb, in which a patient was operated on for uterine carcinoma by vaginal hysterectomy (Schauta's method). After four months the patient began to have pains, poor appetite, loss of weight, and a tumor was found of the size of a goose's egg adherent to the wall of the pelvis. This, however, was of an inflammatory nature and disappeared in about six weeks after it was discovered. Had this patient been given Antimeristem, the case might have been included as a remarkable cure by this remedy. Kolb[3] concludes that clinical experience indicates plainly that Antimeristem has no specific action on carcinoma cells. The experimental evidence of Wasielewski and Wülker indicates that Schmidt's theory is incorrect. Antimeristem is not a specific remedy. Dr. O. Schmidt[4] reports three favorable cases.

From the preceding reviews of the recent literature, it will be seen that this proposed treatment is another premature attempt to introduce to the public an unscientific remedy which is sold to the despairing sufferers from inoperable carcinoma at an enormously high price. If the Laboratorium W. Schmidt of Cologne is to deserve the confidence of the medical profession, it must follow the advice of Wasielewski and Wülker and see to it that incorrect ideas of the scientific foundation and activity of the preparation put out by it are no longer promulgated to physicians and the laity, and Dr. O. Schmidt should also heed the warning and halt this unscientific propaganda.

So far as the use of this vaccine in the United States is concerned, it should be noted that "viruses, serums, toxins, and analogous products" cannot be imported into the United States unless the firm has received a license from the Treasury Department. Such products are held up at the Custom-House for inquiry before being admitted. The Schmidt laboratory has not received a license as can be seen from a list of licensed institutions in *Public Health Reports*, Jan. 10, 1913.

PERTUSSIN

Dr. L. A. Roberts, Dorchester, Mass., writes: "Please tell me what the composition of Pertussin is."

Pertussin is a proprietary whooping-cough remedy manufactured by the Kommandanten Apotheke, Berlin. A "physician's sample" bottle of this preparation sent out by Lehn & Fink bears a label on which appears the following:

"100 parts Pertussin contains:

½	Ol. Thymi, et Thymol
21½	Ext. Thymi 'Taeschner'
50	Saccharum
2	Glycerinum
6¼	Alcohol
19¾	Aqua Destillata"

While it never has had much vogue in this country it has been and still is used in Germany. It belongs to that class of vegetable preparations which, since they contain no distinctive principle, are difficult of analysis—particularly as concerns the "joker" in the formula, in this case "Ol. Thymi, et Thymol" and "Ext. Thymi 'Taeschner'"—hence there has been much dispute in Germany as to the composition of this nostrum. In general, it appears that whatever virtues it has are due to some preparation of common thyme in a menstruum containing water, sugar and alcohol. At one time the preparation was found to contain potassium bromid; but tests recently made in the A. M. A. Chemical Laboratory indicated the absence of either bromids or iodids.

PASADYNE

A physician asks: "Can you tell me the formula of a preparation on the market called Pasadyne, put up by John B. Daniel, Atlanta, Georgia?"

According to the manufacturer Pasadyne is a tincture of passion-flower. Formerly this nostrum was sold under the title "Daniel's Concentrated Tincture of Passiflora Incarnata." While the manufacturer claims marvelous virtues for this preparation, made from "the fruit, roots and vines of the passion-flower or May-pop," passiflora (passion-flower) is now generally recognized as being of little if any value.

A circular makes the following absurd statement:

> "Chloral and the bromids, before the recognition and advent into medicine of Pasadyne (Daniel's Concentrated Tincture of Passiflora Incarnata), were widely employed in all turbulent states of the psyche and, notwithstanding their many untoward, even sometimes dangerous effects, were held in high favor by physicians. For that matter, they still retain some of their old-time popularity, but since the superior value of Pasadyne (Daniel's Concentrated Tincture of Passiflora Incarnata) has been demonstrated to the profession's satisfaction, the erstwhile high esteem in which chloral and the bromids were held, is fast waning and ere long Pasadyne will have crowded them out."

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[1] Wasielewski and Wülker: Baseless Claims for Antimeristem in Cancer, München. med. Wchnschr., Feb. 20, 1912, p. 421.

[2] Kolb, K.: Failure of Antimeristem, München. med. Wchnschr., May 16, 1911.

[3] Kolb, K.: Negative Experiences with Antimeristem in Cancer, Berl. klin. Wchnschr., April 22, 1912.

[4] Schmidt, O.: Antimeristem in Treatment of Inoperable Cancer of the Uterus, Zentralbl. f. Gynäk., Dec. 23, 1911.

Giving the reason why the drug passiflora was not deemed of sufficient value and hence, along with the Daniel preparation, was refused recognition, a report of the Council on Pharmacy and Chemistry (THE JOURNAL A. M. A., March 19, 1910) states:

> "Although passiflora was introduced into medicine nearly seventy years ago, the literature concerning it is not very extensive; it is not mentioned in the standard works on pharmacology and its chemistry seems never to have been worked out. There appears, also, to be no record of experimental investigations of the drug with reference to its pharmacologic action, except an article by I. Ott (*Med. Bull.*, 1898, xx, 457) who used 'Daniel's concentrated tincture.'
>
> "Extravagant and inconsistent claims are made for Daniel's concentrated tincture of passiflora in the advertising literature, where it is recommended for such a wide range of disease as asthma, typhoid fever, convulsions and paralysis.
>
> "None of the evidence is sufficient to show that passiflora has therapeutic value; hence it is deemed inadvisable to include this drug in the list of nonofficial remedies."

THE NEW CONSCIENCE

In this country the public attitude toward things that hitherto have been tolerated is bound to undergo many changes. What *Collier's* said about "Mr. Morgan's Case" can be so aptly paraphrased that we have set it out below:

> "It may help Mr. Morgan [Mr. Patient] to understand if his case is stated by analogy, and in a shape that will appeal to his own experience. He would discharge his chauffeur [his physician] if he should find him to be a partner in the garage [drug-store] that is supplying . . . the gasoline [medicine]. And he would discharge him because of the nature of that relation, without inquiring into specific transactions, or making any charge of dishonesty. It is an axiom of fundamental business ethics that the purchasing agent of a firm [the prescriber of medicines] shall not have a profit-sharing interest in any of the concerns from which he buys supplies [orders medicines]. For how can he be faithful to both trusts? If he is faithful to his employers, he must get the lowest possible prices; if he is faithful to his associates, he must get the highest possible prices. [If he is faithful to his patients, he must use what is best in each particular case; if he is faithful to his pharmaceutical firm, he must use its drugs in every possible case]. If he is faithful to either, he must necessarily be disloyal to the other. This is so simple that every business man understands it. It is an axiom not merely of business ethics, but of law as well. . . . What Mr. Morgan fails to realize is that this relation between buyer and seller is not permissible, wholly regardless of any charge of unfair dealing."

When such relationships are forbidden by law, physicians will, of course, obey the law; but physicians ought to be ready to avoid now what is morally wrong, and not to wait until it is made legally wrong. It behooves us to see that the business world, which formerly was given so much license to deceive, is not allowed to occupy the road alone in its march toward higher and better standards of right and wrong.

BIOSOL

Dr. A. N. Lakin, State Line, Ind., writes:

> "Kindly advise me concerning Biosol. I am sending you herewith a pamphlet describing this product. On the last page note clinical report from Dr. Buchman of the Indiana Medical Association and president of the Department of Public Health, Fort Wayne, Ind."

H. Hille, once of Heidelberg, now of Oak Park, Ill., having reached the conclusion that mineral starvation is the cause of all diseases, devoted his talents to finding a remedy. He claims to have found it and calls it "Biosol." He published his discovery in a pamphlet entitled "Facts of Modern Science," and recently published an article in the *Medical Record* giving his ideas on this mineral point of view. Biosol is an indescribable mixture of alcohol, carbohydrates, and many and various mineral bodies—ranging all the way from sodium, potassium, calcium and magnesium to silicon, copper, uranium and thorium—the amount of each being in most cases extremely minute. It is said to be a valuable food as well as medicine. A dose of this food might keep a rabbit alive for several hours, and a man who could stand the expense and escape death from delirium tremens might live on three quarts of the mixture per day. Human beings have little occasion to fear mineral starvation, and may obviate whatever danger there may be with a drink of milk. Like other living creatures, we may be thankful that we are furnished in our own bodies with a living bioplasm which can use the minerals of the waters and the rocks and which has its own laboratory in which to prepare organic compounds to suit its needs.

Correspondence

The Freudians and Imaginative Literature

To the Editor:—In Dr. Isador Coriat's letter (THE JOURNAL, Feb. 8, 1913, p. 464) in reply to my letter entitled "The Excesses of the Freudian School" (THE JOURNAL, Jan. 25, 1913, p. 307), he discloses several points of view which seem to me to involve some principles so fundamental, not only for this, but also for every discussion of the subject, that I crave the indulgence of your columns once again to consider them.

Dr. Coriat first quotes a portion of a sentence of mine as if it were the whole. What I wrote was: "How much of all that we have heard lately about the sexual etiology of psychoneuroses is true, I personally am frankly not in a position to judge." This is true for several reasons, to wit: Some years ago under the inspiration of a distinguished townsman of Dr. Coriat's, I became immensely interested in the conscious application of psychic methods of treatment to functional nervous disorders. I followed, and still follow particularly the methods of Du Bois, and the isolation persuasion scheme of Dejerine. Later I naturally was stimulated by the studies of Jung on reaction-times in such subjects and in the very suggestive theories of Freud. I used them, somewhat crudely perhaps, but as best I could in the absence of any one else in my community who appeared to know any more about them than I did, on various patients with various degrees of success. I had some quite astonishing therapeutic successes; but when I examined these results critically, I became somewhat skeptical as to the connection between the cure and the treatment, just as I might be skeptical of the connection between the cure and the anchoring of a floating kidney, or Christian Science, or washing out the stomach. I therefore felt that I had a right to suggest that until I had examined a number of the cases that other men had cured I was not in a position to judge as to just how much of it all was true. I added that I was most loath to believe in many instances that a very good case had been made out in print.

Dr. Coriat says that the opinion of so ill-informed a critic would not be tolerated in any other branch of scientific medicine. His irritation is inapt. My opinion, for instance, about pityriasis rubra pilaris might not be tolerated in any group of dermatologists. But if I had pityriasis rubra pilaris I imagine that certain phases of my opinion would not only be tolerated, but would be listened to with considerable interest. When it comes to the question of psychanalysis we are dealing with mental states. And whether Dr. Coriat believes it or not, I possess mental states. I have had emotions. I have had experiences. I have had dreams. So that when he and his fellow-workers advance a hypothesis to account for the origin of certain mental states, of certain experiences and of dreams, he is talking about something for which I have a standard which is for me the most real thing in all the world—namely, my own mental life. And all that he can reasonably ask of me or of any man besides this, before we form an opinion, is a due appreciation of the issues involved and a certain critical ability to weigh facts [illegible] a [illegible]mon education [illegible] supposed to impart.

The real point under
that Freud's disciples

imaginative literature. It may be admitted that some advantage is gained by analyzing characters so universally conspicuous as Hamlet or Lady Macbeth; and furthermore, the propriety of using some isolated action or speech of those creations to point a moral or adorn a tale may again be granted. It seems quite proper, too, that such a study as that of Wagner's "Flying Dutchman," in which it is shown that certain of Wagner's early emotional experiences creep out again in his work, should be undertaken, for here we are dealing with the actual facts of an actual human life. But it was suggested that all this advantage is doubly lost when we are confronted with the pedantic spectacle of a neurologist soberly sitting down to review Lady Macbeth's whole life and explain her somnambulism on the ground of an unconscious repressed wish for a child, because in the inevitable twisting which the words of an imaginative creation would necessarily require a suspicion might arise of the methods employed in other instances. This objection Dr. Coriat meets squarely. He says that "the psychopathologist is in a far better position to judge and interpret abnormal characters in literature than is the literary critic, who has had neither medical nor psychopathologic training. . . . Shakespeare's intuitive insight in creating these characters, so true to what is seen to-day in neurologic clinics, must ever be a source of admiration concerning the accuracy of his astonishing genius." No one who speaks the English language need pause to express his admiration for Shakespeare; but to say that Shakespeare actually anticipated the researches of the modern laboratory psychologist is on a par with saying that because Brutus tells Portia that she is as dear to him as the ruddy drops that visit his sad heart, Shakespeare anticipated the discovery of the circulation of the blood.

We must be quite clear about what is meant by this. It will not do to assert that in a sort of general way these characters show some of the symptoms we see in nervous patients to-day. It means that Shakespeare deliberately and consciously molded these symptoms on the basis of a theory of subconscious sex association. And nothing else will do. Otherwise the whole thing falls to the ground. Dr. Coriat seems to think that whether Shakespeare was conscious of the modern ideas or not makes no difference so long as psychanalytic interpretations can be read into the plays. It seems to me that he is confused. A turn, a phrase, a line of a play may arouse in me emotions or thoughts or insight into modern institutions, of which Shakespeare was certainly not conscious. But there we are dealing with emotional or esthetic life. In the present case we are dealing with science, endeavoring to ascertain the relation of cause and effect. One cannot assert that these creations are beautiful examples of the operation of a certain set of causes if their creator was unconscious of that set of causes and of its operation.

When we come to examine Macbeth in the light of this clarification of ideas, what justification do we find for the belief that Shakespeare intended Lady Macbeth's somnambulism to be the result of an unconscious repressed desire for a child? I can hardly think it unreasonable to ask that if a man starts to prove such an assertion he should at least first clear the decks by concerning himself with the question as to whether Lady Macbeth had a child or not. But this trivial matter Dr. Coriat does not trouble himself to consider. There is as a matter of fact not one single jot of positive unquestionable proof that Lady Macbeth was childless, either in the play itself or in Holinshed. There is, indeed, the negative evidence, that no child of hers walks on the stage. But in the first act we find her talking to her wavering lord, weakening in his determination to kill the king, reminding him that he is sworn and then flaring out in that burst of magnificent passion:

> I have given Sucke, and know
> How tender 'tis to love the Babe that milks me,
> I would, while it was smyling in my Face
> Have pluckt my nipple from his Boneless Gummes
> And dashed the Brains out, had I so sworn
> As you have done to this.

To a plain, blunt man not versed in that uncanny knowledge which is denied literary critics and is the common property of Freud's students, it would appear that this passage indicated that Lady Macbeth had a child. And if so, then it would appear that she would hardly suffer from a repressed desire for a child. Not so with Dr. Coriat. He quotes in his book, "The Hysteria of Lady Macbeth," this very passage. It appears to give him no trouble. He apparently does not consider that it needs explaining. He serenely informs us that "the theme of childlessness is here revealed for the first time." Did ever in the history of human thought the theme of childlessness wear so queer a garb?

It is all this which makes us wonder whether the Freudians ended with a theory or began with one—whether they examined the facts and built a hypothesis, or whether they built a hypothesis and examined the facts. For it has seemed clear for many years that in Lady Macbeth Shakespeare's intuitive insight into the human soul intended to show that the conscience of a murderess was an uneasy bedfellow, that the thing which drove her to wander while she slept was an old sin which came to haunt her slumbers. It was the blood of Duncan on that little hand which all the perfumes of Araby could not sweeten. And if there is any meaning in anything, this tragedy means that Shakespeare believed that a repressed knowledge of murder could be the cause of somnambulism and of hysteria. It is just this that is so exasperating in the Freudian school. There is a plain explanation, and they will none of it. It is this eternal harping on sex as if it were the only thing in life. It is not even the greatest thing in life. Self-preservation is the first law of Nature. We have all along been prepared to accept the principles of Freud's teaching. They have been illuminating beyond measure, and, it were presumption to add, in large part true. But they are not the key to all history or the touchstone to all life. To say that there is only one kind and quality of love in the world and that sexual love—that a son's love for his mother, a daughter's love for her father is all sexual; that if one man loves another man he loves only the womanly qualities in him, that if a man goes about his work in the world, he goes with the hope of female approbation—this is to invite an answer which by its very qualities is difficult to formulate. It is difficult to formulate because the answer to all that is the sober common sense of the average man.

Dr. Coriat makes one other final illuminating remark. "It is a proof, too, of the soundness of Freud's fundamental contributions to psychopathology, when it can be shown that the mental mechanisms of unconscious complexes, repression, dissociation and mental conflicts are the same for hysteria and the anxiety neuroses as for such purely fictitious creations as the mental disease of Hamlet and Lady Macbeth." If this be proof, he has made the most of it. But it is only proper to inform him that that kind of proof would not be tolerated in any other branch of scientific medicine.

Logan Clendening, M.D., Kansas City, Mo.

A Simple Substitute for Kuhn's Aspiration Mask

To the Editor:—Permit me to vouchsafe a bit of valuable information for the benefit of your readers in regard to Kuhn's aspiration mask. It may not be generally known that all the beneficial results of the mask can be secured in a much simpler manner by using a section of a small catheter, about No. 16F, or a straw or quill to draw the breath through, thus retarding inhalation quite as effectually as by use of the cumbersome mask; but such is the case. The only benefit of the mask is to insure a deep, full inspiration of air slowly and gradually, holding it a few seconds and then its sudden expiration, which, as you remark (The Journal, Feb. 22, 1913, p. 632), produces negative compression of the lungs, sucking the blood from the right chamber of the heart into the lungs. When the heart is weakened and tired by overexertion for instance, and there is pain from overdistention of the right chamber, if the patient will lie down for five minutes and breathe in that manner through a quill toothpick or even through his teeth, the relief experienced will be immediate and most remarkable. I have often practiced it myself for nervous excitement and insomnia, usually falling asleep before the expiration of the five minutes, when otherwise I might lie and count the strokes of the clock for hours. For many years it has been my custom to instruct anemic and nervous patients to practice the method for five or ten minutes on first lying down at night, without explaining the reason further than to say that it would expand the chest. It may also be practiced when sitting at a desk or reclining in an easy chair, and it really does oxygenate the blood and improve the breathing capacity of the chest.

T. W. Williams, M.D., Milwaukee, Wis.

Athletics and Health

To the Editor:—Permit me to commend the stand which you take in your editorial on athletics, February 8, particularly your expression with regard to the value of such sports as may be continued after a man's college course is completed. In these matters I feel sure that men engaged in physical education are glad to have the opinions and cooperation of men who are engaged in the general practice of medicine.

Dudley B. Reed.

Medical Examiner, Division of Physical Culture and Athletics, University of Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

VASECTOMY; TECHNIC AND EFFECT ON SEXUAL INTERCOURSE

To the Editor:—1. Please let me know the technic of vasectomy as it is performed for the sterilization of criminals.

2. What effect does the operation have on the ability of the individual to have sexual intercourse, other than preventing the ejaculation of spermatozoa?

L. W. Howe, M.D., Coldwater, Mich.

Answer.—1. The technic of vasectomy was described by H. C. Sharp in The Journal, Dec. 4, 1909, p. 1897, as a means of preventing procreation in defectives. The subject was discussed in The Journal, Sept. 30, 1911, p. 1152, where a considerable bibliography is given. Sharp describes the technic as follows:

> After cleansing the scrotum with soap and water I bathe the part in alcohol, then grasp the spermatic cord between the thumb and the index-finger of the left hand, detect the vas, hold it firmly and fix it with a pair of bullet forceps, then cut down on it, draw it through the scrotal wound by means of a tenaculum hook, strip it of all membranes and the accompanying artery, ligate above and sever, cutting away any portion from the vas that may have been damaged in the manipulation. This is done in order that the end next to the testicle may not become closed. It is very important that it shall remain open, in order that the secretion of the testicle may be emptied around the vessels of the pampiniform plexus and there absorbed, for it is through this process that the economy receives the tonic effect of the secretion; also where the end closes there is likely to be cystic degeneration. The action of the muscle closes the skin wound and no stitch, collodion or adhesive plaster is needed. The patient returns to his work immediately and suffers but little inconvenience.
>
> The operation in the female is more difficult, but, if skilfully done, no more hazardous. The oviduct is reached through a median incision, the tube ligated near the uterus and severed beyond the ligature.

2. It has no other effect.

A report of a supreme court decision upholding vasectomy is given in the Medicolegal Department of this issue of The Journal.

FETAL DEFORMITIES OR DEFECTS NOT DUE TO UNSUCCESSFUL ATTEMPTS AT ABORTION

To the Editor:—If a pregnant woman injects into the gravid uterus, by means of a small rubber syringe, turpentine or other irritant which fails to produce abortion, will this attempt have any effect on the growth and development of the fetus? If the fetus is carried to full term will the child be normal or is it liable to birthmarks and deformity? Is the amniotic fluid sufficient protection?

M. F. Daubenheyer, M.D., Butlerville, Ill.

Answer.—There is still a widespread belief among both the laity and the medical profession that attempts at abortion which do not lead to the expulsion of the egg may in some way injure it so as to cause birthmarks or other deformities. Scientific clinical observation or experiment furnishes little or no basis for this belief.

The theories of the causation of monstrosities may be classified roughly as follows:

1. Supernatural and fantastic theories. These include those theories that assume as factors the influence of gods or evil spirits, hybrid unions and mental impressions.

2. Theories based on trauma and pressure. These assume that the embryo or fetus is affected by maternal traumatism or injury due to falls or blows or tight corsets, or to internal pressure from pelvic tumors or intra-uterine pressure. That some fetal injuries may be due to external violence is true, and that certain deformities may be due to pressure of the containing sac as in ectopic pregnancy there can be no doubt; but this theory cannot explain the common monstrosities like anencephalus, etc.

3. Amniotic theory. According to this theory inflammation of the amnion leads to the formation of amniotic bands that interfere with fetal development. In this group of factors might be placed placentitis, which was held by Simpson to be an important factor in causing deformity. Inflammation of the placenta might naturally spread to the chorion and amnion. Under this head could be included intra-uterine injections and other methods of inducing abortion which supposedly might cause inflammation of the placenta. The existence of placentitis is nowadays not considered well established as a specific disease, and its relation to the amniotic theory is only conjectural. Moreover, the amniotic theory is largely displaced by the fourth, or embryologic, theory.

4. This theory postulates a disordered embryology or a disturbed ontogenesis and organogenesis. According to this theory most deformities are due to arrested development of parts or organs of the embryo or of the adnexa.

In any case the common deformities date from the embryologic period; that is, from the first forty days of pregnancy, and probably more often from the first half of this period. Hence any teratogenetic effect of attempts at abortion can hardly be assumed to occur after the first four to six weeks of pregnancy.

It cannot be denied that injury to the placenta or fetus from an attempt at abortion might interfere with its growth and lead to general undevelopment. That is doubtful, however, and not in accord with general observation. As a rule a patient may be assured that if an attempt at abortion fails she need have no fear about the baby. In many thousands of instances perfect children have been born after unsuccessful attempts at abortion. The fear that the child might be deformed is unjustified and is absolutely no reason for the induction of abortion.

BOOKS GIVING TECHNIC FOR DETERMINING COAGULATION-TIME OF THE BLOOD

To the Editor:—Please give me the technic of a simple, accurate method of determining the coagulation-time of the blood.

W. H. Smith, M.D., Goldsboro, N. C.

Answer.—Good methods can be found in recent works on clinical diagnosis, such as Webster's "Diagnostic Methods" published by Blakiston's Son & Co., Philadelphia, at $4.50; Wood's "Chemical and Microscopic Diagnosis" published by Appleton & Co., New York, at $5, or Simon's "Clinical Diagnosis," published by Lea & Febiger, Philadelphia, at $5. A simple instrument for determining the coagulation-time of the blood is described by W. W. Duke in the *Archives of Internal Medicine*, February, 1912, p. 258.

GUIDES TO WATER ANALYSIS

To the Editor:—Please refer me to a guide to water analysis.

David L. Hedberg, M.D., Leaf River, Ill.

Answer.—There are three excellent books on water-supply, two by English writers (Savage: "The Bacteriologic Examination of Water-Supplies," and Horrocks: "Bacteriologic Examination of Water"), and a third by the American investigators, Prescott and Winslow (published by John Wiley and Sons). These books discuss the interpretation as well as methods of bacterial water analysis. "The Standard Methods of Water Analysis," published by the American Public Health Association, gives both chemical and bacterial methods in detail with many [illegible] ould be ad[illegible] least as much ski[illegible] ce- [illegible] interpretat[illegible] analyses as in [illegible] inexperienced c[illegible] his analytic da

MEDICATION BY THE RECTUM

To the Editor:—1. On page 557 of The Journal, Feb. 15, 1913, is a mention of an article "Medication by the Rectum," by A. Guérin *(Journal de médecine de Bordeaux,* November 17, xlii, No. 46). Does this article give any directions for using remedies by the rectum for systemic effect? If so, please give further details.

2. Please give references to text-books on rectal medication.

A Subscriber, Oklahoma.

Answer.—1. This article was not abstracted, as Guérin does not seem to have personal experiences to report with medicinal rectal injections except in respect to morphin. This has taught him that morphin addiction is possible by all routes. He cites a few authorities, but in a vague, general way. Sodium salicylate by the rectal route is mentioned only as having been used by Seibert, who gave in cerebrospinal meningitis 1 gm. in a tablespoonful of water to a total of from 4 to 10 gm. a day in rectal injection. The chief point which Guérin makes is the superiority of a very small injection, from 1 to 5 or 15 c.c., that is, 2 or 3 teaspoonfuls or less, injected with a syringe with a capacity of not over 6 or 15 c.c. possibly with a cannula or short rubber tube slipped over the tip. He quotes several writers who warn that mercury and quinin should never be given by the rectum. He knows of two instances of children dying after the use of suppositories containing the usual therapeutic dose of quinin. The rectal mucosa seems to be peculiarly sensitive to quinin. The lower part of the rectum seems to have the greatest absorbing power. The fluid should be tepid, injected when the intestines are at rest, some time after a cleansing enema, and the patients must be explicitly instructed anew that the medicinal injection is to be retained. Renaut found Fowler's solution irritating to the rectum and changed to sodium cacodylate, which he declares is superior to all other preparations of arsenic for rectal injection. Guérin's formula for morphin is 0.1 gm. morphin in 150 c.c. of distilled water, injecting 15 c.c., or 0.12 gm. in 60 c.c. water, injecting only 6 c.c. He advises injection of a small amount of laudanum to precede a nutrient enema instead of adding the laudanum to it.

2. We do not know of any book devoted to rectal medication. There are references in the various works on therapeutics. In general, it is believed that absorption from the rectum is less active than from the stomach and upper intestine. For this reason the doses of remedies for rectal use are usually given as somewhat greater than those administered per os.

INFLAMMATION OF THE GALL-BLADDER

To the Editor:—In March, 1912, I operated on a patient for empyema of the gall-bladder following typhoid fever. Bile flowed for a few days. A free flow of mucus continued until the sinus closed, when great pain developed in that region, relieved only by reopening of the sinus. There would be a copious discharge of mucus and no more pain until the sinus closed again. It has been noted that each time the sinus closed and pain developed, reopening of the sinus would bring away a smaller amount of mucus. There is no pain at any time except when the sinus closes. The flow of mucus being so much less now, the sinus closes much more frequently.

Will Nature eventually cause such a shrinking of the gall-bladder that the mucous fistula will heal spontaneously if the fistula is kept open? Is there any local treatment that may be used to hasten the desired end?

M. V. S.

Answer.—In this case the trouble lies in the fact that the inflammation of the gall-bladder has not subsided entirely. Therefore when the opening closes the symptoms recur. The drainage should be continued until the surface of the mucous membrane of the gall-bladder is perfectly smooth and pink in color. This is determined by a cystoscopic examination of the gall-bladder. As soon as the inflammation subsides, drainage may be dispensed with and the patient will not have pain when the opening closes. There is no local treatment which will hasten the desired end.

THE PURSUIT OF EMPTY HONORS—THE ITALIAN PHYSICO-CHEMICAL ACADEMY

To the Editor:—I enclose some printed circulars I received. The "academy" from which they come appears to me like a fake, and if such it proves to be, publication of some announcement might save many physicians from being imposed on.

F. W. Foxworthy, M.D., Indianapolis.

Answer.—One of the impressive circulars referred to would lead the innocent reader to believe that he has been nominated for the honor of being elected to membership in the Italian Physico-Chemical Academy. He is told that a handsome diploma will be forwarded to him, but first, of course, there is—ahem!—the slight incidental formality of the payment of a specified fee. This fake "scientific" organization, along with some other similar diploma-mills, was discussed in The Journal, Oct. 21, 1911, pp. 1373 and 1380.

The wish to display tokens of loyalty to an organization which actually has an aim and a work springs from a trait in human nature of which no one need feel ashamed; but it is characteristic of children and of naive grown-ups to delight in trumpery decorations like the souvenirs distributed by advertisers and the degrees and medals ground out by diploma-mills. It is often amusing to see the meaningless diplomas and absurd titles which physicians sometimes secure for a few dollars and treasure as if they were guerdons of scientific achievement, even framing them and hanging them in their offices—why? Is it to impress the unsuspecting public? Of course, a foreign diploma is especially valuable for this form of quackery.

HYDROPHOBIA AND RABIES

To the Editor:—Please print a list of articles on hydrophobia and rabies published in The Journal, and the names of any books on the same subject.

T. B. Enders, M.D., New York.

Answer.—In addition to Moore's "Pathology of Infectious Diseases of Animals," 1906, the following original articles and editorials which have appeared in The Journal may be referred to:

Rabies in 1911, editorial, The Journal, July 27, 1912, p. 282.

Cumming, J. G.: Hydrophobia, with Report of a Case, The Journal, May 18, 1912, p. 1496.

Hanson, Henry: Rabies in a Human Being, with Post-Mortem, The Journal, Dec. 23, 1911, p. 2064.

Stimson, A. M.: Controlling Hydrophobia in the Human Subject, The Journal, Sept. 30, 1911, p. 1128.

Moon, S. B.: Microscopic Diagnosis of Rabies; a Modification of Van Gieson's Method of Staining the Characteristic Nerve-Cell Inclusions, The Journal, Aug. 26, 1911, p. 735.

The Pathology of Rabies, editorial, The Journal, May 14, 1910, p. 1617.

Hydrophobia, editorial, The Journal, March 3, 1910, p. 799.

Frothingham, L.: The History, Prevalence and Prevention of Rabies and Its Relation to Animal Experimentation, The Journal, March 5, 1910, p. 780.

Stimson, A. M.: Antirabic Serum, The Journal, Jan. 22, 1910, p. 266.

Kerr, J. W., and Stimson, A. M.: The Prevalence of Rabies in the United States, The Journal, Sept. 25, 1909, p. 989.

Rucker, J. B.: The Smear Method as a Means of the Rapid Diagnosis of Rabies, The Journal, July 25, 1908, p. 288.

Rabies in Great Britain and in America, editorial, The Journal, Oct. 24, 1908, p. 1428.

The Specific Treatment of Rabies, editorial, The Journal, Feb. 29, 1908, p. 691.

The Negri Bodies in Hydrophobia, Query and Minor Note, The Journal, Jan. 11, 1908, p. 140.

Hydrophobia, editorial, The Journal, May 16, 1908, p. 1612.

LITERATURE ON ANAPHYLAXIS

To the Editor:—Please give me references to recent work on anaphylaxis.

J. R. Blackman, M.D., Hastings, Neb.

Answer.—The following may be referred to:

Schultz, W. H.: Physiologic Structures in Anaphylaxis, Hygienic Laboratory Bull. No. 80, 1912.

Anaphylaxis, editorial, The Journal, April 22, 1911, p. 1199.

Friedberger, E.: Anaphylaxis, Deutsch. med. Wchnschr., March 16, 1911; abstr., The Journal, April 22, 1911, p. 1232.

Infection and Anaphylaxis, editorial, The Journal, March 11, 1911, p. 746.

Grinnan, S. G. T.: Anaphylaxis, The Journal, Jan. 20, 1912, p. 178.

Meilliere, G.: Anaphylaxis, Med. Press and Circular, Dec. 6, 1911.

Shaw, H. B.: Anaphylaxis in Relation to Certain Clinical Manifestations, Practitioner, London, December, 1911.

Hektoen, L.: Allergy or Anaphylaxis in Experiment and Disease, The Journal, April 13, 1912, p. 1081.

Anaphylaxis, Paris Letter, The Journal, Nov. 16, 1912, p. 1807.

Gallagher, J. F.: Anaphylaxis, Jour. Tennessee State Med. Assn., October, 1912.

The volume "Infection, Immunity and Serum-Therapy" by Ricketts, published by the American Medical Association at $2, has chapters on anaphylaxis, besides taking up all the other ramifications of this general subject in detail.

HAIR-SPLITTING IN HYPERTRICHOSIS

To the Editor:—In The Journal (Feb. 22, 1913, p. 617), the question is asked about splitting of the hair in hypertrichosis. Is it possible that J. J. S. S. has a case of hypertrichosis mixed with fragilitas crinium, or has he given the disease the wrong name?

H. Schmidt, M.D., Addieville, Ill.

Answer.—The query of J. J. S. S., we understand, really refers to fragilitas crinium in hypertrichosis, and it was answered with this interpretation. We find no positive statement that fragilitas crinium is likely to occur in hypertrichosis, but we see no reason why it might not, so there is no necessity for confusion in the names of the diseases.

VOLUME LX
NUMBER 10

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PRESIDENT'S COMMISSION FAVORS HEALTH SERVICE

One of the questions most warmly discussed before the Senate Committee on Public Health and National Quarantine was that of the advisability of organizing an independent health service. President Taft referred this question to the President's Commission on Economy and Efficiency, to consider the possibility of organizing such a service by transferring to an independent organization a number of the existing bureaus and divisions, as provided by the Owen bill. The report of this commission, recently printed as Senate Document 1002, is an endorsement of Senator Owen's plan, as an economical and efficient solution of the problem of governmental health activity. The report should be read by all interested in this subject. The substance of it is given below:

ESTABLISHMENT OF AN INDEPENDENT PUBLIC HEALTH SERVICE

The Commission on Economy and Efficiency has undertaken to investigate the various government services having to do with matters pertaining to public health, and submits the following preliminary report on the advisability of establishing a government service independent of existing executive departments, to have charge of those activities that pertain to the public health.

The recommendations of the commission on this subject are:

1. That provision be made by law for the establishment of an independent Public Health Service.

2. That provision be made in the law creating that service for the transfer to it of bureaus or divisions in the executive departments concerning which there is no doubt as to their distinct public health purpose, and among those the following: (*a*) the Bureau of Public Health and Marine-Hospital Service, now under the Department of the Treasury; (*b*) the Bureau of Chemistry, or that part of it charged with the investigation of the adulteration of foods, drugs and liquors, and with the execution and enforcement of the act of Congress entitled "an act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes," approved June 30, 1906, now in the Department of Agriculture; (*c*) the Division of Vital Statistics, Bureau of the Census, now in the Department of Commerce and Labor.

3. That provision be made in the law for the grant of authority to the President to transfer to said Public Health Service the whole or any part of any bureau, division, or other branch of the government engaged in work pertaining to the public health except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy, when on investigation he is of the opinion that it will be for the best interests of the public to make the transfer.

4. That provision be made also for certain new bureaus under said Public Health Service to take charge of lines of work not covered by other subdivisions of said services or other bureaus, divisions, or branches of the government.

5. That the director of the Public Health Service be authorized, with the approval of the President, to rearrange the organization and work of the several bureaus and divisions covered by his service in such manner as will bring about a better coordination of said subdivisions.

6. That provision be made by the law for the transfer of funds appropriated with each service transferred and for the apportionment of funds for each bureau or division rearranged by the director of the service.

The foregoing recommendations represent the conclusions which have been reached by the commission as the result of its study of the work now being done in the several executive departments in the protection and promotion of the public health. In other reports the commission has emphasized the economy and efficiency to be attained through the bringing together under the same general direction of those services whose activities fall within the same field.

The commission has studied in detail the work of the several services and branches of the government having to do with matters of public health, and has reached the conclusion that until the several bureaus and divisions are brought together under a common direction it will be impossible for the government to have a definite health program which is adapted to the needs of the people or for public health matters to receive the attention their importance deserves, nor can the existing services accomplish the results that should be obtained from the moneys expended in their maintenance and operation.

The creation of an independent Public Health Service is recommended by the commission in order to accomplish three purposes: (1) to insure that a work of such commanding importance to the people will receive the special attention that it deserves, (2) to provide an organization best adapted to doing health work, and (3) to relieve existing departments of duties in no way germane to their chief functions and which therefore detract from rather than add to their efficiency.

In respect to the first of these points the commission is influenced not only by the importance and variety of the work now being done by the government in this field, but by the certainty that public opinion will demand that the government do much more each year. It may be said that only within recent years has the country been aroused to the importance from the national standpoint of the subject of public health. That this awakened interest must lead to the assumption by the national government of new duties and responsibilities in this field is almost certain. It is not necessary, however, to base a recommendation for an independent Public Health Service on future needs. At the present time the operations of the government in this field are sufficient to warrant the creation o an independent service to care for them. In the Marine Hospital, quarantine and immigrant inspection work of the Burea of Public Health and Marine-Hospital Service of the Treasur Department; in the scientific research work done in th bureau; in the enforcement of the pure food, drug and liqu act, through the Bureau of Chemistry of the Department Agriculture; in the comprehensive efforts being made by t Division of Vital Statistics of the Bureau of the Cens Department of Commerce and Labor; and in the special w being done by various other subdivisions the government is now doing work pertaining directly to public health and sanitation, and that work requires the maintenance of elaborate services and the expenditure of millions of dollars annually.

The commission has considered the question as to whether the advantages to be derived from the correlation of these several services could not be secured by assembling them under some one of the existing executive departments. Such examination, however, has convinced the commission that this would not reach the end desired unless all the activities which are not directly related to health work be first transferred from such department. It believes that the attempt to group these several services under a department whose major interest would be in other fields would result in little, if any, improvement over existing conditions. At the same time the commission recognizes the inadvisability of adding to the number of executive departments if such action can be avoided. It is for this reason that it recommends the creation of a service which, while independent of other departments, will not itself have the status of a department unless after such a service has been developed and a better basis exists for judgment it is found that an additional department is needed. It may be that by redistribution of activities the same end may be reached without increasing the number of departments.

The services which the commission believes should be transferred by law as subdivisions of the proposed Public Health Service do not represent all of the bureaus, divisions and subdivisions performing work in connection with the public health and sanitation. There are a number of other services whose activities, in whole or in part, fall in this field. These other services have grown up, however, as parts of organizations created for the performance of work in fields other than that of public health and sanitation. Only a painstaking investigation of the exact nature of the work now being performed by such services and its relation to other activities performed by the bureaus and departments in which such services are located will make it possible to determine whether or not it will be in the interest of economy and efficiency to have such work performed as at present or transferred to and made a part of the Public Health Service. The commission has undertaken detailed studies of the history, organization and activities of these services. Until the results of such studies are available the commission [illegible] tha[illegible] ould be a [illegible] take to transfer the work [illegible]

It is for this reason t[illegible] recommendations conce[illegible] made part of the Pub[illegible] concerning the propriety of whose incorporation in the Public Health Service there can be but little difference of opinion. It is satisfied that such further investigation of other services having to do with public health matters will establish clearly that some of these services, or certain parts of their activities, should be transferred to the proposed Public Health Service. The commission accordingly recommends that the act providing for the creation of such Public Health Service should authorize the President hereafter to transfer such other services or parts of services to the independent Public Health Service to be created as, in his opinion, is for the best interests of the public. In making this recommendation the commission has followed the precedent established by the act creating the Department of Commerce and Labor.

The commission believes that similar provision should be made in the act providing for the establishment of an independent Public Health Service.

It believes also that the director of the Public Health Service, subject to the approval of the President, should have the same power to rearrange and consolidate the subdivisions of his service that was conferred on the Secretary of Commerce and Labor to rearrange and consolidate the statistical work of the bureaus and offices confided to said department.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Connecticut: Regular, City Hall, New Haven, March 11. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, New Haven, March 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, March 11. Sec., Dr. Thomas S. Hodge, 19 Main St., Torrington.

Maine: City Hall, Portland, March 11-12. Sec., Dr. Frank W. Searle, 776 Congress Street.

Massachusetts: State House, Boston, March 11-13. Sec., Dr. Edwin B. Harvey, Room 159. State House.

Iowa September Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Sept. 11-13, 1912. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 22, of whom 20 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1912)	92.1
Northwestern Univ. Med. School (1911) 88.7, 91.5;	(1912)	94
Rush Medical College	(1911)	89, 90.2
College of Phys. and Surg., Chicago (1910) 87, 88;	(1912)	89.2, 93.1
Hahnemann Medical College and Hospital, Chicago.	(1912)	78.5, 85.6
State University of Iowa, College of Medicine	(1897)	76
Drake University	(1912)	93.7
University of Louisville	(1912)	78.6
Cornell University Medical College	(1910)	92
St. Louis University	(1912)	88.9
Woman's Medical College of Pennsylvania	(1912)	87.5
Memphis Hospital Medical College	(1912)	79.2
Western University, London, Ontario	(1912)	88.5
FAILED		
Keokuk Medical College	(1892)	39
St. Louis College of Physicians and Surgeons	(1910)	70.1

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written and oral examination held at Lansing, Oct. 8-10, 1912. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and not less than 50 in any subject. The total number of candidates examined was 15, of whom 13 passed and 1 failed. For one candidate the credentials have not been completed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Hahnemann Medical College of Chicago	(1891)	76
Bennett Medical College	(1912)	75.1.
Rush Medical College	(1912)	81.8
Harvard Medical School	(1911)	82
Baltimore Medical College	(1911)	84.6
University of Michigan, Dept. of Med. and Surg.	(1903)	79.7
University of Michigan, Homeopathic College	(1912)	79.9
Saginaw Valley Medical College	(1899)	79.5
Bellevue Hospital Medical College	(1897)	77.4
University of Pittsburgh	(1911)	83.3
Laval University, Quebec	(1902)	*80.8
University of Athens, Greece	(1893)	*91.8
Royal University of Palermo, Italy	(1902)	*87
FAILED		
Detroit Homeopathic College	(1910)	64.4

* Including allowance for years of practice.

Alabama January Report

Dr. W. H. Sanders, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, Jan. 14-17, 1913. The number of subjects examined in was 10; total number of questions asked, 98; percentage required to pass, 75. The total number of candidates examined was 68, of whom 46 passed including 1 osteopath and 22 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Birmingham Medical College (1907) 80; (1911) 81; (1912) 75, 75, 78, 79, 79, 79, 80, 80, 82, 83.		
University of Alabama (1910) 80; (1911) 77; (1912) 75, 75, 76, 77, 78, 78, 80, 83, 93.		
Atlanta College of Physicians and Surgeons	(1912)	78
Atlanta School of Medicine	(1912)	78
Chicago College of Medicine and Surgery	(1912)	75
Rush Medical College	(1907)	88
American Medical Missionary College	(1910)	78
Kentucky School of Medicine	(1902)	75
Tulane University of Louisiana	(1912)	79, 89, 90
Columbia University, College of Phys. and Surg.	(1896)	75
Ohio-Miami Medical College	(1912)	84
University of Pennsylvania (1910) 82;	(1911)	81
Chattanooga Medical College	(1908)	78
Memphis Hosp. Med. Coll. (1910) 78; (1911) 76;	(1912)	76, 81
Vanderbilt University	(1912)	82, 83, 84
University of Virginia	(1909)	86
FAILED		
Birmingham Medical College (1907) 62; (1908) 68; (1912) 65, 69, 71, 72.		
University of Alabama (1911) 62, 72;	(1912)	68
Southern College of Medicine and Surgery, Atlanta.	(1912)	52
Atlanta School of Medicine (1908) 63; (1911) 68;	(1912)	57, 70
Tulane University of Louisiana (1910) 73;	(1911)	73
University of Maryland	(1911)	73
Memphis Hospital Medical College (1911) 73;	(1912)	62
University of Tennessee	(1912)	66, 73
University College of Medicine, Richmond	(1911)	73

Washington January Report

Dr. F. P. Witter, secretary of the Washington State Board of Medical Examiners, reports the written and oral examination held at Spokane, Jan. 11, 1913. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75 and not less than 60 in any one subject. The total number of candidates examined was 40, of whom 29 passed including 3 osteopaths and 11 failed including 1 osteopath. The following colleges were represented:

College	Year Grad.	Total No. Examined
PASSED		
University of Colorado	(1911)	2
Northwestern University Medical School (1907) (1911)	(1912)	3
College of Physicians and Surgeons, Chicago	(1909)	1
Bennett Medical College	(1912)	1
Drake University	(1897)	1
Tulane University of Louisiana	(1910)	1
Baltimore Medical College	(1910)	1
Detroit College of Medicine	(1906)	1
University of Michigan, Homeopathic College	(1906)	1
University of Michigan, Department of Medicine and Surgery (1898) (1902)	(1912)	3
University of Minnesota, College of Medicine and Surgery (1905, 2)	(1912)	3
University of Nebraska	(1909)	1
Columbia Univ., Coll. of Phys. and Surg. (1907)	(1910)	2
Cornell University Medical College	(1909)	1
University of Oregon	(1912)	2
Jefferson Medical College	(1909)	1
University of Munich, Germany	(1908)	1
FAILED		
Physio-Medical College of Indiana	(1889)	1
University of Louisville	(1907)	1
Tufts College Medical School	(1909)	1
Detroit Homeopathic College	(1908)	1
St. Louis University	(1904)	1
St. Louis College of Physicians and Surgeons	(1893)	1
University of Buffalo	(1888)	1
University of Pittsburgh	(1911)	1
University of Nashville	(1902)	1
University Siena, Italy	(1909)	1

Book Notices

MUSCLE SPASM AND DEGENERATION IN INTRATHORACIC INFLAMMATION . . . AND LIGHT TOUCH PALPATION . . . By Francis Marion Pottenger, A.M., M.D., LL.D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Cal. Cloth. Price, $2. Pp. 105, with 16 illustrations. St. Louis: C. V. Mosby Company, 1912.

This book brings together with much additional information what the author has published on the same subject in medical periodicals during the last few years. He believes that more can be inferred than is ordinarily inferred from what is seen on the exterior of the chest, as to whether or not the lungs are involved. He asserts that one properly trained in light palpation can locate organs and lesions within the thorax to an extent not appreciated by most clinicians.

The author points out that, as a result of inflammation within the thorax, muscles on the outside first become rigid through spasm just as the abdominal muscles do under similar circumstances. This spasmodic rigidity is an early sign of intrathoracic disease; in pulmonary tuberculosis at the apex of a lung, for example, it is first noticed in the sternocleidomastoid and trapezius. If muscle spasm is long maintained by chronic disease, the muscle undergoes degeneration, shrinks in volume and becomes softer but often shorter. These changes are usually ascribed to general emaciation, though the author shows that they have a local cause. He explains the nervous relationship of these muscular changes by the mechanism of parts, and describes these fully.

Attention is called to the fact that when there are old tuberculous lesions in the lungs, the patient's head is often bent to the side affected. This is due to shortening of the rectus lateralis because of degeneration. The conditions of "round shoulder" and "stoop" often seen in these patients receive a similar explanation. That a lack of pulmonary elasticity plays a part in producing "lagging" expansion on the most affected side, as generally admitted, is accepted by the author; but he believes that in early stages the spasmodic contraction of muscles which must be overcome, and the imperfect motion of the diaphragm which x-rays have revealed, play the greatest part. Flattening of the chest is ascribed first to compression of the chest by the spasm and later to contraction by the degenerated muscles. Pottenger gives a logical explanation of careful observations of the chest in disease, and the book will be of value to all who are keenly interested in physical diagnosis.

THE PROGNOSIS AND TREATMENT OF DISEASES OF THE HEART. By R. O. Moon, M.A., M.D., F.R.C.P., Physician to the National Hospital for Diseases of the Heart; Assistant Physician to the Royal Waterloo Hospital. Cloth. Price, $1.25 net. Pp. 111. New York: Longmans, Green & Co., 1912.

This volume embraces in small space the essential features concerning the prognosis and therapy of diseases of the heart. Most of what is written is to be found in the standard works on practice or in the special works on heart disease. While there is little of the new, the old and tried are clearly set forth, systematically arranged in nine chapters dealing with such topics as aortic disease, mitral and tricuspid disease, myocarditis, angina pectoris, functional affections and heart strain, paroxysmal tachycardia and Stokes-Adams disease, pericarditis, the treatment of special symptoms. This grouping makes for ease of reference. Little is to be found concerning the aids to prognosis and the hints as to treatment afforded by the galvanometer.

DER ENDEMISCHE KROPF. Mit besonderer Berücksichtigung des Vorkommens im Königreich Bayern. Von Dr. A. Schittenhelm und Dr. W. Weichardt. Paper. Price, 9 marks. Pp. 128, with 19 illustrations. Berlin: Julius Springer, 1912.

This monograph contains the results of a collective investigation of endemic goiter in Bavaria. Careful and systematic studies of these cases, particularly as seen in school children, were made by district physicians in the different Bavarian districts and have been worked over into this report. The methods employed, statistical details, maps, etc., make the report convincing as to accuracy. While of greater interest to the German physician because of its local coloring, many of the results have a more general bearing. Thus the investigators find a greater prevalence of goiter in the mountainous districts of Bavaria but cannot trace any very close relationship to the geologic formation of the land furnishing the water-supply. Cretinism they found oftener in the goitrous districts; exophthalmic goiter did not impress them as unusually frequent. Spontaneous disappearance of cretinism was occasionally noted.

The authors feel that the drinking-water does not contain any preformed toxin due to contamination from some special geologic formation. Nevertheless, in the water, especially the water of mountainous districts, is to be sought the causative agent of production of endemic goiter. This agent is regarded as a parasite that up to the present has escaped detection.

HUNDERT TOTALEXSTIRPATIONEN BEI MYOMA UTERI OHNE TODESFALL. Zugleich ein Beitrag zur Technik der Gynäkologischen Laparotomie. Von Hofrat Dr. S. Flatau. Paper. Price, 2.40 marks. Pp. 92, with illustrations. Berlin: S. Karger, 1913.

The rather unusual results of no mortality following 107 total hysterectomies for uterine myoma is the basis for this monograph. As a result, too, of such an excellent outcome, a considerable portion of the report is devoted to the technical features of the operation. The case reports are given briefly, being arranged in a series of charts covering but twenty pages. The patients ranged in age from 24 to 62 years, though only one was over 55, a factor which may go far in explaining the absence of mortality. Twenty-five of the women were single and thirty-six of the married had never borne children. Of those who were mothers, seven had had three children, two had had five each and not more than one had given birth to six children. The hemoglobin estimation varied from 55 to 85 per cent. The heart was affected to any considerable extent in ten cases. Pain and hemorrhage were the chief symptoms. The appendages were involved thirty times, carcinoma coexisted four times, and sarcoma four. In but one of the sarcomatous involvements was there ascites. One uterine and one tubal gestation were found. Aside from the malignant changes, other degenerative processes were observed in eight cases. But eight of the myomas involved the cervix.

A TEXT-BOOK OF GYNECOLOGY. By William Sisson Gardner, M.D., Professor of Gynecology, College of Physicians and Surgeons, Baltimore. Cloth. Price, $3. Pp. 286, with 138 illustrations. New York: D. Appleton and Company, 1912.

As stated by the author in his preface, this volume is designed especially to fill the needs of the busy medical student, and hence does not enter deeply into the various subjects, but treats of each as briefly and concisely as possible, paying especial attention to the more common ailments. The illustrations are line drawings, with some photomicrographs and several photographs of gross specimens. Chapters on examination, technic, postoperative treatment and complications are valuable to the student.

DIE METHODEN DER KÜNSTLICHEN ATMUNG UND IHRE ANWENDUNG IN HISTORISCHKRITISCHER BELEUCHTUNG MIT BESONDERER BERÜCKSICHTIGUNG DER WIEDERBELEBUNGSMETHODEN VON ERTRUNKENEN UND ERSTICKTEN. Von Dr. G. van Eysselsteijn, Direktor des Universitäts-Krankenhauses in Groningen. Mit einem Vorwort von Prof. K. F. Wenckebach, in Strassburg. Paper. Price, 3.20 marks. Pp. 122. Berlin: Julius Springer, 1912.

This little treatise on methods for restoring those who are apparently drowned or suffocated is interesting because of the full historical review of all methods proposed for this purpose from earliest times to the present.

UROLOGISCHER JAHRESBERICHT. Einschliesslich der Erkrankungen des männlichen Genitalapparates. Herausgegeben von Prof. Dr. R. du Bois-Reymond and Others. Redigiert von Prof. Dr. A. Kollmann und Dr. S. Jacoby. Literatur 1911. Paper. Price, 21 marks. Pp. 499. Leipzig: Dr. Werner Klinkhardt, 1912.

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Society Proceedings

COMING MEETINGS

Alabama State Medical Association, Mobile, April 15-18.
California State Medical Society, Oakland, April 15-17.
Georgia State Medical Association, Savannah, April 16-18.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Missouri Valley Medical Society, Kansas City, March 20-21.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.

CONFERENCE OF THE AMERICAN MEDICAL ASSOCIATION ON MEDICAL EDUCATION AND MEDICAL LEGISLATION

Held in Chicago, Feb. 24 and 25, 1913

(Concluded from page 691)

Necessity of a Readjustment of Preliminary and Collegiate Education

PRESIDENT HARRY PRATT JUDSON, University of Chicago: There are two conflicting forces at work in training for any profession. The first is, in a profession like medicine the young man must learn the manipulative processes when his fingers and body are flexible, and this involves getting the student early. On the other hand, he has not the breadth and intellectual development which comes from years of study in many things besides the immediate sciences which lead to medicine. On the one hand, we are apt to take a student when he is young, and when his mind is not highly developed and turn him loose in the world as a practicing physician without the proper breadth of training a physician should have. On the other hand, we take him through the secondary school, the college and the medical school, make him an intern, and by the time he is ready to settle down he is pretty far advanced in life.

I have been studying college curriculums of late years, and I find that a large percentage of the contents of these curriculums are nothing but high-school courses. I distinguish between the high-school and secondary work thus: high-school work is essentially elementary in character, and the secondary subjects essentially advanced in character belong to colleges. Colleges teaching elementary French and German are doing the identical thing that is done just as well in good high schools; yet a boy in taking French or German spends two years of elementary work in either of those languages as a part of the course for the bachelor degree. It is high-school work and nothing else. History, English, civics, political science and a lot of other things, as well as elementary courses in physics, chemistry, etc., can be taught in high schools as well as in colleges.

I believe that it is possible to shorten the preliminary and secondary courses of study in such a way that when a man receives his M.D. degree he will not be so old as the average man is to-day when he enters on the practice of medicine. If we open the door of opportunity, I have no fear that our young men will not enter it and make of themselves what they ought to make.

Organization of the Medical School

DR. EDWARD H. BRADFORD, Dean of the Harvard Medical School: The faculty of medicine of the Harvard Medical School, acting under the authority of the university, is grouped into three faculties. It has an academic organization, a medical school, a postgraduate school and a dental school. All of these work under one dean. The school is organized for the purpose of research, for instruction, for clinical teaching, and for what we may call clinical research. In order to do that, it is necessary to have hospital affiliations, and laboratories for research and teaching. Then come the allied hospitals. There are a number of institutions that have been organized for many years with different governing boards and different traditions, and it was necessary to associate them with the Harvard Medical School in such a way that they would work in harmony, giving clinical opportunities for teaching and research. We have been able to make an alliance with these various institutions. The trustees of the hospital recognize that in order to secure proper surgeons and physicians it was necessary to appeal to the whole country. In order to do that, it was necessary to have the stamp which a Harvard University professorship gives. For that reason they have united and have chosen Dr. Christian and Dr. Cushing to take charge of the hospitals. Harvard University has appointed them as professors with salaries, and a hospital has been organized, to be opened within a month or two, which will combine the teaching and clinical research and the care of the patients in the wards. It is within a stone's throw of the medical school. Then there is the Children's Hospital, which has made an alliance with the Harvard Medical School, and is being built close by. The physician and surgeon of that institution cannot be appointed by the trustees of the institution unless he is nominated by the Harvard Medical School. The Samaritan Hospital for chronic cases and the Cancer Hospital are close to the medical school. The Psychopathic Institute, a state-endowed institution for the study of insanity and allied diseases, is under a professor of the Harvard Medical School. The Lying-In Hospital, also closely allied, will soon come within the vicinity of the medical school. The Dental Infirmary is near the medical school. A female hospital is planned, and the land has been purchased within a short distance of the school. A Woman's Hospital is a quarter of a mile away and closely allied, so that within a pistol-shot of the medical school there are these institutions with 680 or 700 beds, and there are other institutions allied to the medical school. The medical profession in Boston is a well-united and harmonious body. If we differ, we differ as men do differ, but we are all united in a desire to advance medical education in the highest and best way.

The Organization of Medical Schools

MR. CHARLES F. THWING, President of Western Reserve University, Cleveland: In the organization of medical schools, two official boards are required and are sufficient. One board, usually called a faculty, is to be concerned with the teaching and scholastic affairs; the other usually called the trustees, is to be concerned with the financial and the non-academic administration. It is not well for those engaged on the medical side to be directly responsible for the financial. The investing of funds, a chief duty on the financial side, is a delicate and difficult undertaking. This duty should be entrusted to men trained in this service and fitted for it. Members of a faculty are not usually so trained and so gifted. The advantage of two boards is found in the ease of making changes; the disadvantages are found in the far too great ease of radicalism. The government consisting of a faculty and one board of trustees seems to promise the best type of wise efficiency and of efficient wisdom. A faculty is to be constituted of the heads of departments. Such officers belong to this body by reason of their official relations. Membership should not usually be extended beyond such a condition. In this organization of the school with its two bodies, a distinction between legislative and executive functions is ever to be laid. The failure to observe this distinction is liable to result in disorder.

In the most important matter of selecting members of the teaching staff, I believe that the most effective method is for the faculty, through a committee, to make nominations. These should be presented by the president to the board of trustees, who, of course, will usually accept and confirm them. In making such nominations and elections the president by virtue of his office is a member of each committee. With him each committee should confer and he should cooperate with each committee, but the president should always be solicitous that the primary responsibility should rest on the committee of the faculty or the board of trustees.

MR. GEORGE EDGAR VINCENT, President of the University of Minnesota, described the reorganization of the school of medicine in the University of Minnesota. He said: Medical education in that state is now unified as there is only one school of medicine. This unification was brought about by absorbing two or three other medical colleges which in the past might be regarded as rivals. Minnesota will do its share in building up ideals and in upholding the standards by cooperating with other states in so doing.

Mr. Kendric C. Babcock, Washington, D. C.: I agree with President Judson that we should shorten the time that is spent in the earlier years of education, if possible. There is one serious thing, however, that confronts those who are trying to raise the standards of medical education according to the plan in the announcement made by the Association of American Medical Colleges of establishing a four-year high-school course based on eight years in the elementary schools. Some sections of the country are not able to meet that situation. I am much more concerned about the process of selection of material that shall be admitted to colleges than I am with the actual time or unit value.

Dr. W. B. Cannon, Boston: The method of reducing the years of training has been suggested before. I would like to ask President Judson whether he sees any way by which the medical profession can bring influence to bear which would result in a reduction in the number of years of study of which he speaks.

President Judson: I know of no way except that each man exert his influence on the community in which he lives. My previous remarks had reference to medicine particularly, as this is a medical meeting. With a reorganization of the curriculums, I believe it would be of benefit not only to the medical profession but to all professions and schools.

Hospitals and Their Relationship to Clinical and Postgraduate Medical Teaching

Dr. Horace D. Arnold, Boston: There are hospitals which make no real provision for the scientific study of cases. It is impossible to give the patients in such an institution the advantage of modern scientific investigation and treatment; the better grades of physicians cannot be secured for positions on the staff, and the nursing must be on a correspondingly low plane. Such a hospital is neglecting its duty to its patients. On the other hand, there are medical schools which are practically without clinical opportunities. Another essential feature is that the teaching force of the school and the staff of the hospital should be identical. Appointments should be made on the ground of merit alone and should not be limited by local conditions. A strong institution cannot always be built from the men who happen to be located at one particular place. Freedom of choice of the best men, wherever they may be found, conduces to strength in the institution. It is clear that adequate salaries must be paid for such eminent men, who must necessarily devote the greater part, if not the whole, of their time to the service of the combined institutions. Another matter of considerable importance is that such a combination of medical school and hospital should be located in a large center of population. Only here can adequate clinical opportunities be obtained for a good-sized medical school. Close proximity of the buildings of the two institutions is very important. Only in this way can the two institutions work in the fullest cooperation.

The problem of the fifth "hospital" year was ably discussed at this conference a year ago. The consensus of opinion was that it is desirable but not yet practicable. It will be practicable, however, as soon as the hospitals and the medical schools can enter into closer relations. This movement will be greatly stimulated by the investigation of the hospitals which the Council on Medical Education has been authorized to make, with reference to the ability of the hospitals to give systematic training to interns. The fifth "hospital" year will, my opinion, become a reality in the near future in the best edical schools. As compared with the undergraduate medical chool, the graduate medical school must be much more comlex and more elastic. The graduate medical school should be open to any licensed practitioner of medicine, for it has a duty to perform to the public. It should extend to any one who is legally permitted to treat the public a chance to improve his medical knowledge. The students then will differ widely, as their medical training and experience have varied. They may be divided roughly into four classes. 1. Well-trained physicians who wish to pursue more advanced studies than are given in the medical school proper, including research. 2. Well-trained physicians who have recently graduated and wish to study new fields, which they did not have time to take up during their undergraduate course. 3. Physicians who have been out of the medical school for some time and wish to get abreast of the progress that has taken place in medicine since they graduated. 4. Poorly-trained physicians who have become aware of deficiencies and wish to have them corrected.

However much we may raise the standards of our medical schools, it will affect directly only those who are yet to be trained—the future doctors. It does not offer a remedy for the recognized condition that we now have an immense number of poorly trained physicians who received their degrees from poor schools in the past. These can be reached best through the graduate schools. Hence the problem of graduate medical instruction well deserves the serious consideration of the Council on Medical Education in its efforts to raise the standards of efficiency of the profession by educational methods.

DISCUSSION

Dr. Victor C. Vaughan, Ann Arbor, Mich.: We have come to the time when preventive medicine must offer itself to the public. This year a bill which is practically the same in its essentials has been introduced into the legislatures of three states. As introduced into the Michigan legislature, this bill provides that in every county in Michigan with a population of 20,000 or more, exclusive of the cities of 20,000 or more, there shall be appointed a commissioner of health. In every city of 20,000 or more there shall be appointed a commissioner of health. The State Board of Health is authorized to group the less densely populated counties together, making them sanitary districts, and in every one of these sanitary districts, whether it be a city, a county or a number of counties together, the law, if it is passed, will be mandatory that there shall be appointed by Jan. 15, 1914, a commissioner of health from an eligible list furnished by the State Board of Health, and the eligibility to that list will be secured by passing a special examination on preventive medicine before the State Board of Health. He shall be a legally qualified physician. He must have passed the State Board of Examiners. In addition to this, he must have passed a special examination before the State Board of Health, and the State Board of Health will furnish every sanitary district in the state with a list of eligible men, and these men shall be appointed by a certain date in January, 1914. If this bill does not pass, it will be on account of the opposition to it by members of the medical profession. This thing is coming about whether the medical profession wants it or not.

Dr. J. S. McLester, Birmingham, Ala., spoke of the reorganization of the old Birmingham Medical College during the past summer. He said that its property and hospital franchise have been offered to the trustees of the University of Alabama without any obligation being imposed on the trustees by this action beyond the provision that they are to use this property and hospital equipment for such medical instruction as they may deem fit as a graduate school of medicine.

Dr. J. N. McCormack, Bowling Green, Ky.: I have had an idea that much of the postgraduate work, if it be made effective, must be conducted in a much broader way than can be done within the walls of colleges. For a good many years I have led a movement for a course of postgraduate instruction in every county in the United States. This work may not be done so well as in many of the medical schools of the country, but a successful effort has already been made in many countie to reach almost every physician within the county by puttin the influence of the profession under him and lifting him up t the light. This movement has reached men in the countr districts, the family physicians. For four years physician have met every week, with simple laboratories, and for th demonstration of methods that were elementary in a way, h this postgraduate work has brought the ordinary physician to a standard which a few years [illegible] did not seem possi and the highest functi [illegible] aduate re form is to qualify in their respective benefactions of these schools to the rank and file of the profession who are not financially able to attend graduate schools.

The Importance of Harmony and Uniformity in the Work of State Examining Boards

Dr. Herbert Harlan, President of the Maryland State Board of Medical Examiners, Baltimore: I think I am safe in saying that few even of the officers of the state boards know well the laws of other states, and still fewer know the actual work of other boards than their own. How examination questions are prepared, what precautions are taken to maintain secrecy in reference to the questions, what precautions to prevent cheating in conducting examinations, how carefully and intelligently examination papers are read and graded, how the records in the secretary's office are kept, what detailed information can be readily and promptly furnished in regard to any man who has been an applicant, whether successful or unsuccessful before any board, or in reference to any practitioner within the bounds of the secretary's state. Let information in reference to such matters once be made public, and I predict that there will come the same marked improvement in the medical practice laws, in the personnel of examining boards and in the carrying out of these laws by these boards as will compare favorably with the improvement in the medical colleges of the country.

How can this improvement be brought about? I should say, let every effort be made to have a single association of state boards, or let all the good boards join the federation, let that body arrange for a real inspection and detailed report on all boards and their work, including the secretary's office and record, let reasonable minimum requirements be fixed and adhered to, and let membership and reciprocal relations be refused to any board not coming up to these requirements.

DISCUSSION

Dr. Herbert Old, Norfolk, Va.: Our board was able in 1912 to have the general assembly enact a law which is a ombination of the model law, as advocated by the Council on ledical Education, and some of the features suggested by the oard of Regents of New York State and the recent registraon laws of Texas. The result has been that our position is w far in advance of what it was in 1911.

Dr. W. S. Leathers, representing the Mississippi State Board of Health, University, Miss.: The State Board of Health supplements the work done by the Council on Medical Education relative to raising medical standards. If there should be a weak medical college, the purpose of the State Board of Health is to put a check on the men who are turned out by that college. The graduates of first-class medical schools should be given licenses. If boards of health are to supplement the work done by the Council on Medical Education, they ought to work in harmony with the Council. During the past year our legislature passed a medical practice act, and our board last spring passed a resolution which supports the work of the Council, namely, the board will not recognize students who come from colleges of the Class C group.

Dr. B. D. Harison, Detroit: Dr. Harlan drew attention to the fact that a man who is rejected by his board may go to another state, obtain a license, and then come back again. This can be prevented by a proper form of agreement. If the act is administered properly, no man can do that sort of thing. It is simply a question of administration. Harmony and uniformity of state licensing boards can and should be accomplished through a national association. While the boards may have their differences, or there may be a diversity of state medical laws, I think they can all agree to harmonize which will tend to uniformity.

Dr. J. M. Baldy, Philadelphia, spoke at length on reciprocity between state boards. He agrees with Dr. Harison that a man who has failed in one state, goes to another and secures a license, and then returns to the state he formerly left, ought not to be eligible for reciprocity, and that if any state board were to allow that type of man to get back, it should reorganize.

The Medical Profession and Medical Education

Dr. John A. Witherspoon, Nashville, Tenn.: A few years ago when medical education in this country was chaotic, when any man who possessed any information or ability to alleviate human suffering was welcome, and sometimes was a great public benefactor to his race, those men, many of whom had not the advantage of medical education, did their duty in a time when their services were sorely needed. That condition and the new condition surrounding the development of this country made the development of the so-called preparatory schools a possibility. Many of these schools depended on the individuality of one person. We all know in olden times when men went to Transylvania largely because of Dudley; when men went to various medical colleges on account of one individual who possessed the ability, the power, the leadership over men that made it possible for him to organize and to educate people in that day of empiricism and superstition. Who can say that those men did not do well? Any man in my judgment who loves the traditions of his country is bound to recognize that those men stood out as giants, wrought well, and made it possible by paving the way for us to have the privileges of higher education which we are receiving to-day. From the labors of these men who did this work we are public benefactors and are the teachers of the present day, and for them I have the greatest reverence.

In that etiologic period between 1880 and the nineties, when the causes of so many infectious diseases were known for the first time, it became evident that the whole trend of medical thought and medical teaching must change. We are coming to an age of prevention rather than cure; an age in which the laboratory must be brought as a strong handmaid to clinical experience. With the coming of that age, the necessity for a better-educated profession, the necessity for a more widely grounded and better-prepared and better-trained mind to study medicine became apparent. If the American Medical Association had no other use for its existence than to offer an opportunity of meeting socially, for the purpose of exchanging ideas and experiences, it might be sufficient, but when it had grown to such gigantic proportions, the master minds who had it in charge realized that they owed a much greater duty to the people among whom they lived, and that it was absolutely necessary for them to broaden the scope of usefulness, and the only way they could start the ball rolling, as it were, was to insist on a higher-class profession; hence the organization of the Council on Medical Education. When, eleven years ago, the American Medical Association organized the Council and the work was begun, it looked as if it was not only a stupendous task, but almost an impossibility to accomplish anything like practical results within our lives. I remember very well, and my colleagues will remember it, when we met for the first time and received the information that in the United States we lacked only four medical schools of having as many as the combined countries of the world. We realized what a task was before us, and yet look at the results! I want to say to you, if anything was required to show the greatness, the elasticity of power, the determination of the American character, no better illustration can be had than the response almost universally made to the demands of the national Association through its Council for better things educationally in medicine in this country. I can imagine nothing grander, nothing that will bring greater applause and add greater credit to our profession than that we shall have in a short time produced a condition in our country by which we can turn out to the world professional men with the high ideals that belong to the profession naturally, inculcating into their minds the higher elements necessary to understand all that is meant by preventive medicine, inculcating into them those principles that make each man his brother's keeper. Naturally, the future physician will not only be prepared to practice medicine in its fulness and its usefulness, but he will also be prepared to take a better view of life and become a better citizen and a better man for having been a better doctor. Then he will have reached the position the medical profession has aspired to so long, which is its natural place, at the head of the learned professions of this country.

SOCIETY PROCEEDINGS

CONFERENCE ON MEDICAL LEGISLATION

The Ninth Annual Conference on Medical Legislation met Tuesday, February 25, at 9:30 a. m., with the Chairman, DR. HENRY B. FAVILL, Chicago, in the Chair.

The Public and the Profession

DR. HENRY B. FAVILL, Chicago: We have had a number of these conferences. Every year the question has arisen as to whether they were profitable. Every year has answered that question increasingly in the affirmative. I think that every session has justified itself more than its predecessors, and I believe for excellent and permanent results. The program this year is better than any hitherto. The ease and facility with which it has been formulated have been noticeably greater this year, and it is obvious that the men from all over the country, who are willing to come here and devote their time and thought to this matter, are doing so with a keener appreciation of attendance on the conference as a privilege rather than as a duty.

The situation is encouraging not only from the point of view of our organic activity, but also from the point of view of the public and the reception of our offerings by the public. There has been no time in the history of medicine when the utterances of the medical profession have been received with so much cordiality and with so much dignity as now. I am conscious from my relations to the Council (of which I am a member) of a phenomenal change in the attitude of the sociologic public, the press, and even the political public toward the subjects with which we deal, and I believe that this is but the beginning. Our program marks a triumph toward the things which we are striving to accomplish. Every improvement brings with it an impetus; and as we realize that the contest is not futile, but that we have entered the field of achievement, we are encouraged to redouble our efforts for the measures for the public weal. The prospect of national legislation has never been so encouraging as now. The new administration is more favorably disposed toward health legislation than has been the case heretofore, and I believe we are on the threshold of achievements. However long they may be delayed, they are steadily approaching, not on the basis of pressure, but of a receptive understanding on the part of the people who are ultimately responsible for our administrative advances. The feeling is growing for a real national department of health. On the whole, I regard the present situation with the utmost optimism.

Following the remarks of the Chairman, the Secretary, Dr. Frederick R. Green, made a brief informal statement of the work of the Secretary, after which he called the roll of the states so that the representatives could make such reports as they saw fit relative to legislative matters in their respective states.

Report of the Committee on Revision of the Model Law on Vital Statistics

DR. CRESSY L. WILBUR, Washington, D. C., Acting Chairman: The circulation of the model bill and the active interest taken in the extension of adequate registration methods by the Council have been of great service in promoting the more efficient registration of vital statistics in the United States. Experience has proved that it may be relied on to give good results, if proper provision be made for its support, and that the effectiveness of state laws now in existence may be measured by their degree of compliance with its principles. The bill has been introduced in the present sessions of the legislatures of Illinois, Iowa, North Carolina and Tennessee. While vital statistics are fundamental to public health work, their collection cannot be prosecuted successfully until the general sanitary administration of the state is provided for. A weak, half-starved state board of health will fail in the administration of any law; but once fairly equipped for work, a board can strengthen itself and promote the extension of its activities in all directions by no other means more effectively than by enforcing and utilizing the results of a good law for the registration of vital statistics.

Report of the Committee on Expert Medical Testimony

DR. HAROLD N. MOYER, Chicago, Chairman: From a consideration of all the facts, the committee feels justified in advancing the following conclusions: 1. The present system of introducing expert medical evidence is admittedly faulty. 2. Any change, if made, should be done with great caution and only after mature deliberation. 3. The present inexact state of medical science does not warrant the invasion of the province of the jury or the abridgment of cross-examination. 4. The only change at present justified is one altering the manner in which experts are to be summoned. 5. The appointment of official experts is not advisable. 6. The hypothetical question as commonly used in our courts should be simplified.

DISCUSSION

DR. E. J. MCKNIGHT, Hartford, Conn.: It would not be a bad idea for the Council to pass a resolution recommending that physicians in different localities adopt the so-called Leeds system. In Leeds, England, physicians will not testify in any case until they bring together the experts on both sides and try to come to some conclusion, as in the consultation of a private case. This simplifies matters very much, and I believe it is the solution of this trouble. We must hold consultations and get rid of the farce of expert medical testimony. If such a sentiment could go out from this Council or Conference it would be of great value.

The Chairman appointed as a Committee on Resolutions Dr. E. J. McKnight, Connecticut; Dr. James F. Percy, Illinois; Dr. S. S. Crockett, Tennessee; Dr. Ben R. McClellan, Ohio; Dr. J. W. Kerr, United States Public Health Service, and Dr. Frederick R. Green, Chicago, ex officio.

The Police Power of the State and the Practice of Medicine

MR. A. C. UMBREIT, Attorney for the Wisconsin State Board of Medical Examiners: The one great purpose of the proposed new medical practice act pending before the legislature of Wisconsin is to eliminate from the legal requirements for the practice of the healing art all sectarianism, schools or systems of practice, and base such requirements entirely on educational and professional training and fitness. This is the underlying and all-embracing purpose of the whole act. Another purpose is to give everybody who has the necessary preliminary and professional education and training an opportunity to practice the healing art in any form he chooses. If a person has the necessary educational qualifications demanded by this bill, he may practice the art and science of health in any way he sees fit; but this fundamental knowledge is absolutely required and necessary for the protection of the public. Another purpose is to place all practitioners of the healing art, as far as legal authority so to practice is concerned, on an absolutely equal basis in order that it cannot be justly charged that any favoritism is shown for any particular system or school of practice; and further to eliminate the alleged defense of persons prosecuted for violating the medical practice act that they could not obtain a license and thus legally follow their profession, even if they had the necessary qualifications, on the ground that their special school or system of practice is not recognized by the law or an examination therein permitted. Another general purpose is to give those who have no license to practice, and who may not have the necessary preliminary and professional education to pass the required examination and thus obtain a license, but nevertheless claim that they have a system of healing which possesses merit, permission to practice such system under certain well-defined limitations in order to demonstrate any merit in their contention.

Coming now to the distinctive features of the bill, the fir is the fact that the words "practice of medicine," "physician, "surgeon," "osteopath" and like words do not appear in t bill at all, except in one place where it was necessary employ these words in order to continue the legality of t licenses heretofore granted and to preserve the authority the licensed practitioners. The [illegible] ice of medicine is cal "the art and science [illegible] le sufficiently comp hensive to include [illegible] the ability edge to treat the branches of subjects in which those who desire to practice the art and science of health in Wisconsin must show sufficient knowledge in order to be recognized as licensed practitioners. These are anatomy, physiology, histology, pathology, chemistry, general diagnosis and hygiene. No one will have the hardihood to assert that persons who are not thoroughly grounded in the knowledge of the structure of the human body, of the functions of the organs and of the structure of the various tissues of the human body, of the origin and physiologic and anatomic features of disease, and its causative relations, of the science of the composition of material things and the changes they undergo in their ultimate composition, of the recognition of a disease from its symptoms and the determination of the nature of a diseased condition, and of the preservation of health and the rules and principles for the promotion of health, are fit persons to treat a human being for any ailment.

DISCUSSION

Dr. M. L. Harris, Chicago: I am a firm believer in the police power of the state. I am a believer in higher education and higher standards for the doctor. I am a believer in the duty of the state to protect the people. I maintain that the licensing system as contained in the present medical practice acts is a failure, in that in its practical application it does not accomplish what these acts were intended for, namely, to protect the people. They do not protect the people. Nearly every medical practice act contains so many exceptions that the act itself becomes a farce. In place of protecting the public, it places a penalty on the honest educated doctor. Only one of a few illustrations need be given. For instance, take Massachusetts. Almost anybody can practice in Massachusetts anything he wants to, unrestricted, except the honest doctor. He must have all the qualifications of a high education. He must have an examination to be licensed. For what? To practice honest medicine; but any faker can practice anything he wants to without license or restriction, there are so many exceptions to the law. Other states are the same. The exceptions kill the law. In other states, where the exceptions are not specifically mentioned in the law, the decisions of the courts almost emasculate the law. That is so in a number of states.

As to the remedy, I was much pleased to see that the new Wisconsin bill includes most of the features that I recommended here two years ago, namely, that anybody should be allowed to practice medicine or any thing he wanted to without a license. What the state should do is to protect the individual in the sense of defining to him those who are qualified to practice medicine so that he cannot make a mistake. If there is a medical science, and we think that there is, we ought to be able to demonstrate it to the people, and we ought to have it so plain that any person can find a qualified practitioner if he wants to. It is the duty of the state to designate to the public in unmistakable terms those who are qualified by educational qualifications to treat the sick

Dr. Edward Evans, La Crosse, Wis.: The trouble with all legislation is that it has been fundamentally wrong, that medical men and medical schools are only incidents in this whole business. The people of the community are fundamentally concerned, and until we so frame legislation as to have that in view, we shall be wrong all the time.

Dr. C. A. Harper, Madison, Wis.: I fully agree with the speakers that the medical practice act as we have it does not accomplish the purpose for which it is intended. It holds certain medical men up to certain standards, and in Wisconsin, and I believe in many other states, permits a great many people without any standards to come in and practice or work about as they please. People of that class are shrewd; they have a way of avoiding the definition of the medical practice act, and conviction in the courts is practically impossible. The bill introduced by Mr. Umbreit has a great deal of merit, and it is to be hoped it will pass the legislature.

Dr. J. N. McCormack, Bowling Green, Ky.: It would be unfortunate for it to go out as the sense of this body that we should undo the work which has been done in the last generation on medical legislation, and it has been based on educational reform which has been brought about. What has been done in raising the standard of medical education has been based on medical legislation of the various states, and to go back to the chaotic condition of thirty years ago would be distinctly a step backward, and it would be a false premise, I believe, on which to base opinions. Simply because the law has failed in Illinois or some other states, we should not jump to the conclusion that it has been a universal failure. We have not had a quack in the state of Kentucky for twenty or more years. It is true, they have come into our state, but we soon drove them out. We seek to secure competent men; men who are well grounded in the fundamental branches, and we believe that we are able to secure them through our system of examination, which is so impartial that we have the cordial support of the homeopaths and eclectics in my state, the same as we have it from the regular profession. I should not like to see the statement made by Dr. Harris, for whom I have the greatest respect, go out as the sentiment of this Conference as representing the opinions of the great American Medical Association. The fault is not with the underlying principles, but it is with the details of your legislation and the creation of proper public and professional sentiment which will support the legislators.

Dr. C. E. Cantrell, Greenville, Tex.: The burden is that we have to reach the people who were licensed when I was licensed. We cannot under our constitutions make the laws retroactive and impose a general examination every two or five years. If this could be done, we would solve the problem in licensing. Until we can we must bear that burden. We are not making it any worse. Let us make it better.

Progress in Vital Statistics Legislation

Dr. Cressy L. Wilbur, Washington, D. C.: The local registrar and the primary registration districts are the bases of successful registration. The local registrar should be a careful, conscientious person, aware of the importance of his duties, and prompt in fulfilling them. His district should not be so large that he cannot exercise supervision over all of it, but of such a size that the occurrence of a birth or death without proper registration may reasonably be expected to come to his attention. This will require perhaps from 1,000 to 1,500 local registrars in the average state. City and village clerks make good local registrars. Of course, health officers already conducting registration in cities may be retained. For the country, the township clerk may be employed, and in the absence of township organization, local registrars may be designated by a county board, or, preferably, as suggested by the model bill, by the state registrar. The practical objection to the latter method is the fear of building up a political machine or of creating new offices. In any event the local registrar should be liable to removal for neglect, and should receive a reasonable compensation (25 cents) for all certificates of births and deaths properly registered and promptly returned. The corps of local registrars, in addition to its usefulness in securing prompt and complete records of births and deaths, may also become an important factor in the general sanitary improvement of the state. The choice of a state registrar is important, and it goes without saying that sufficient compensation should be provided, and also the requisite degree of independence of action, to secure the services of a well-qualified man.

The model bill has never included any provision for the compensation of physicians or midwives. The committee of revision was practically unanimous in the belief that it would be undesirable and inexpedient to make such change in the bill; nevertheless a footnote was inserted calling attention to the fact that provision might be made for payment of physicians and midwives as in the Kentucky law. The registration of births has been much neglected in this country, and a much smaller proportion of the population is represented by adequate returns of births than of deaths. The enforcement of such laws is generally in the hands of physicians, and as the laws must be enforced against those physicians who neglect or fail to comply with them, failure to proceed promptly in cases of delinquency, or entire failure to act in such cases, must be considered discreditable to the profession. We are making progress, and the condition to-day is more hopeful for complete and effective registration in the United States than ever before.

DISCUSSION

DR. GEORGE W. WEBSTER, Chicago: The most important single feature of this bill is that it provides for the immediate transmission of information from the local to the central registrar, from the local health official to the state official, where this information may be utilized. It eliminates what has been a stumbling-block in carrying on successful registration hitherto by the county official. The next strong point is that it provides for violation of the law. As an example, hitherto the Illinois law has provided that the state's attorneys in the counties shall prosecute violators of the law; but no one is charged with lodging information against these officials for violation of the law, and for the twelve or more years I have been president of the Illinois State Board of Health I have heard of only one single prosecution by the state's attorneys in any county in the state. The new model law makes provision for the state board of health to lodge information against the attorney who fails to report such a violation. It provides for uniformity and comparability of data.

The Control of Ophthalmia Neonatorum in Massachusetts

DR. MARK W. RICHARDSON, Secretary State Board of Health, Boston: In the year 1910 there were 257 cases of ophthalmia neonatorum reported; in 1911 there were 1.364 cases, and in 1912 there were 1,173. The activities of the board, especially through its prosecutions of offending practitioners, has brought the number of reported cases from 16 in 1905 up to 1,173 in 1912. The efforts of our inspectors are often of great value, as shown by some typical instances. 1. An infant was found with badly inflamed eyes. He was not receiving the proper care. Two days had elapsed between the visit of the physician and the report of the case to the local board of health. The attention of the local board of health was directed to the case, and the child was sent to the hospital where it received proper treatment. If the conditions which were found at the time of the visit had been allowed to continue there is reason to believe that the child's sight would have been destroyed. 2. A patient was found improperly treated by a private physician. The disease was progressing unfavorably, and at the advice of the state inspector of health expert treatment was obtained. The child completely recovered. 3. A case was found in which the disease originally affecting one eye had spread to the other eye, in consequence of improper care. The conditions were immediately brought to the attention of the local board of health. The child was removed to the hospital, where, under proper treatment, the sight of one eye was saved. Unfortunately, a corneal ulcer had destroyed the sight of the other eye. In another case no prophylactic had been used at the time of birth by the physician, and four days had been allowed to elapse before reporting the case to the local board of health. The child's eyes were found to be badly inflamed, with a heavy purulent discharge. The conditions were brought to the attention of the local board of health, proper treatment was instituted, and the child's eyes were saved.

In any campaign against ophthalmia neonatorum early birth returns are of the greatest importance. The legislature of 1912 helped our campaign along by requiring a preliminary birth return within forty-eight hours, and by empowering the secretary of the commonwealth to place information concerning ophthalmia neonatorum on the birth certificate. At the top of this certificate in red ink the physician or midwife is warned that inflammation of the eyes must be reported immediately to the board of health. Although midwives have no legal status, they exist in our community. Investigation shows, however, that they have played little part in the bad cases of ophthalmia neonatorum. The chief offenders seem rather to be physicians, often in good standing.

Health Organization in Schools

DR. E. B. HOAG, Minneapolis: Dr. Hoag's paper was read by title, owing to the lateness of the hour. An abstract is as follows: In my paper I outline the general procedure for a director of school hygiene at each place visited. 1. A general meeting with all the teachers of the local school system, at which are explained methods for the physical observation of school children. At these meetings practical demonstrations or clinics are held with one or more grades of school children present, usually a fourth or fifth grade. 2. Individual demonstrations to the teachers at the various grades in different schools. 3. Examination of special cases. 4. A second meeting with all the teachers for the purpose of discussion of the results of observations in the grades. 5. An open meeting devoted to the interests of parents of school children. 6. Inspection of school buildings and premises. 7. Organization of the study of mentally deficient children. 8. Recommendations for health promotion addressed to the board of education and adapted to the conditions discovered. 9. Aid furnished in organizing school health departments according to one of the three or four standards which have been adopted. 10. Short courses in child hygiene at normal schools, and demonstrations in the training schools.

Whether local school health work should be conducted under boards of health or boards of education or with the cooperation of both depends almost entirely on local conditions, and no dogmatic answer can be given. At present, 75 per cent. of the school health work in the United States is directed and controlled by the boards of education.

DR. H. M. BRACKEN, Chairman, St. Paul, Minn., presented the report of the Committee on Railway Sanitation; Dr. S. Park Lewis, Chairman, Buffalo, New York, read a report of the Committee on Conservation of Vision; Professor E. O. Jordan, Chicago, read a paper on "The Municipal Regulation of the Milk-Supply," and Dr. W. B. Cannon, Boston, read a paper on "Antivivisection Agitation and the Forces Behind It."

DR. W. B. CANNON, Boston, offered the following resolution, which was referred to the Committee on Resolutions:

WHEREAS, Several bills have been introduced in Congress to regulate interstate commerce in habit-forming narcotic drugs;

Resolved, That the Council on Health and Public Instruction and the members of the Annual Conference on Medical Legislation of the American Medical Association hereby express their approval of all legislative efforts which may be necessary to restrict the employment of habit-forming drugs to proper and legitimate uses.

The Committee on Resolutions reported that one matter only had been referred to it, namely, Dr. Cannon's resolution regarding the federal regulation of traffic in habit-forming drugs. The committee unanimously recommends the passage of the resolution.

On motion, the recommendation of the committee was concurred in.

As there was no further business to come before the conference, on motion of Dr. Crockett, the meeting adjourned *sine die*.

Medicolegal

Operation for Prevention of Procreation as Part of Penalty for Crime

(State vs. Feilen (Wash.), 126 Pac. R. 75)

The Supreme Court of Washington says that, guided by the rule that, in the matter of penalties for criminal offenses, the courts will not disturb the discretion of the legislature, save in extreme cases, it cannot hold that vasectomy is such a cruel punishment as cannot be inflicted on the defendant for the horrible and brutal crime of which he was convicted, namely statutory rape committed on the person of a female child under the age of 10 years. He was sentenced to imprisonment for life in the state penitentiary, the final judgment and [illegible] ther ordering that [illegible] operation be [illegible]

Feilen for the prevention of procreation, and the warden of the penitentiary of the state of Washington is hereby directed to have this order carried into effect at the said penitentiary by some qualified and capable surgeon by the operation known as vasectomy; said operation to be carefully and scientifically performed." That judgment is affirmed.

The defendant was prosecuted under section 2436, Rem. & Bal. Code, and the penalty of life imprisonment was properly imposed. Section 2287 provides that: "Whenever any person shall be adjudged guilty of carnal abuse of a female person under the age of ten years, or of rape, or shall be adjudged to be an habitual criminal, the court may, in addition to such punishment or confinement as may be imposed, direct an operation to be performed on such person, for the prevention of procreation." It was under the authority of this section that the trial judge ordered the operation of vasectomy, and the defendant contended that it was unconstitutional in that an operation for the prevention of procreation is a cruel punishment. As the statute does not prescribe any particular operation for the prevention of procreation, the trial judge ordered that the operation known as vasectomy be carefully and skilfully performed. The question then presented was whether the operation of vasectomy, carefully and skilfully performed, must be judicially declared a cruel punishment forbidden by the constitution. No showing was made to the effect that it would in fact subject the defendant to any marked degree of physical torture, suffering or pain. That question was doubtless considered and passed on by the legislature when it enacted the statute.

The crime of which the defendant was convicted is brutal, heinous and revolting, and one for which, if the legislature so determined, the death penalty might be inflicted without infringement of any constitutional inhibition. It is a crime for which in some jurisdictions the death penalty has been imposed. If for such a crime death would not be held a cruel punishment, then certainly any penalty less than death, devoid of physical torture, might also be inflicted.

On the theory that modern scientific investigation shows that idiocy, insanity, imbecility and criminality are congenital and hereditary, the legislatures of California, Connecticut, Indiana, Iowa, New Jersey, and perhaps other states, in the exercise of the police power, have enacted laws providing for the sterilization of idiots, insane, imbeciles and habitual criminals. In the enforcement of these statutes vasectomy seems to be a common operation.

Dr. Clark Bell, in an article on hereditary criminality and the asexualization of criminals, found at page 134, vol. 27, *Medico-Legal Journal*, quotes with approval the following language from an article contributed to *Pearson's Magazine* for November, 1909, by Warren W. Foster, senior judge of the Court of General Sessions of the Peace of the county of New York: "Vasectomy is known to the medical profession as 'an office operation,' painlessly performed in a few minutes, under an anesthetic (cocain), through a skin-cut half an inch long, and entailing no wound infection, no confinement to bed. 'It is less serious than the extraction of a tooth,' to quote from Dr. William D. Belfield of Chicago, one of the pioneers in the movement for the sterilization of criminals by vasectomy, an opinion that finds ample corroboration among practitioners. . . . There appears to be a wonderful unanimity of favoring opinion as to the advisability of the sterilization of criminals and the prevention of their further propagation. THE JOURNAL of the American Medical Association recommends it, as does the Chicago Physicians' Club, the Southern District Medical Society and the Chicago Society of Social Hygiene. . . ."

Must the operation of vasectomy, thus approved by eminent scientific and legal writers, be necessarily held a cruel punishment under the constitutional restriction, when applied to one guilty of the crime of which the defendant was convicted? Cruel punishments, in contemplation of such a constitutional restriction, have been repeatedly discussed and defined, although this court has not been cited to, nor has it been able to find, any case in which the operation of vasectomy has been discussed. In State vs. Woodard, 68 Va. 66, a recent and well-considered case which may be consulted with much profit, Brannon, Justice, said: "The legislature is clothed with power well-nigh unlimited to define crimes and fix their punishment. So its enactments do not deprive of life, liberty or property without due process of law and the judgment of a man's peers, its will is absolute. . . . What is meant by the provision against cruel and unusual punishment? . . . In short, the text-writers and cases say that the clause is aimed at those ancient punishments, those horrible, inhuman, barbarous inflictions."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Annals of Ophthalmology, St. Louis

January, XXII, No. 1, pp. 1-212

1 Results of Established Treatment of Detachment of Retina, and New Theory. D. T. Vail, Cincinnati.
2 Simple Method and Equipment for Quickly and Accurately Determining Lenses to Correct Astigmatism. D. E. Sulzer, Paris.
3 Neurotic Case of Keratitis Punctata Superficialis. W. L. Phillips, Buffalo, N. Y.
4 Syphilitic Pseudohypopyon. Rollet, Lyon, France.
5 An Accessory to Ophthalmometer Forming a Corneal Microscope. H. S. Gradle, Chicago.
6 Sociologic Aspect of Errors of Refraction. W. Zentmayer, Philadelphia.

Bulletin of American Academy of Medicine, Easton, Pa.

February, XIV, No. 1, pp. 1-112

7 Women in Industry in United States. J. H. McBride, Pasadena, Cal.
8 Relation of Foreign Population to Mortality Rates of Boston. W. H. Davis, Boston.
9 Education for Parenthood. H. C. Putnam, Providence, R. I.
10 Colorado Method for Examination and Care of Public School Children. M. E. Bates, Denver, Colo.
11 Subnormal School Child. L. T Royster, Norfolk, Va.
12 Management, Maintenance and Efficiency of School for Cripples in Cleveland. J. E. Tuckerman, Cleveland.

Colorado Medicine, Denver

February, X, No. 2, pp. 33-70

13 Functional Tests of Heart. C. T. Burnett, Boulder.
14 Functional Tests of Liver. P. Hillkowitz, Denver.
15 Anaphylaxis. R. C. Whitman, Denver.
16 Management of Acute and Chronic Suppuration of Middle Ear. J. J. Pattee, Pueblo.
17 Case of Eclampsia. F. N. Cochems, Salida.
18 Tests of Kidney Function. C. Giffin, Boulder.

Indiana State Medical Association Journal, Ft. Wayne

February, VI, No. 2, pp. 55-98

19 *Case of Diaphragmatic Hernia. J. C. Sexton, Rushville.
20 Physical Insolvency. H. O. Pantzer, Indianapolis.
21 Some Clinics of Europe. J. O. Stillson, Indianapolis.
22 True Physician. C. A. White, Danville.
23 Relations of Specialist to Practitioner. A. Carter, Plainfield.

19. **Diaphragmatic Hernia.**—Aug. 23, 1912, Sexton's patient, male, 36 years old, had performed on him a posterior gastro-enterostomy, with anterior gastro-plication and fixation two weeks before. The conditions to be corrected by such surgical procedure were found to be a dilated stomach and duodenum, and hernia of the stomach through the diaphragm into the thoracic cavity, the esophageal opening having become dilated into a large arched abnormal passage through which the entire hand could readily be passed. At the time of operation almost the entire stomach was found within the thoracic cavity. The pull of the stomach to the left had produced considerable displacement of the peritoneum of the right upper abdomen. The layer of peritoneum covering the second portion of the duodenum was carried forward and to the left in such a manner as to present a triangular fold or layer of peritoneum abnormally thick, the division of which disclosed the dilated duodenum. During the 1910 harvest he suddenly felt something give way in his left side, or back—or "clear through him," as he said—which was attended with some pain and

faintness. He had not been able to do any heavy work since that time. He had had in this last two years many attacks of vomiting, sometimes lasting a week, many attacks of so-called neuralgia of the stomach, or stomach pain—some of them sufficiently severe to require the attendance of a physician and the hypodermic injection of morphin. Later on he was educated to the use of the stomach-tube, and by the prompt application of stomach washing could always bring relief to his discomfort.

Journal-Lancet, Minneapolis

February 15, XXXIII, No. 4, pp. 97-126

24 *Diagnosis of Diseases Associated with Enlargement of Spleen. H. Z. Giffin, Rochester, Minn.
25 Oral Infection in Relation to Constitutional Infection. T. B. Hartzell, Minneapolis.
26 *Splint for Fractured Clavicle. J. T. Leland, Herman, Minn.
27 *Conservation in Some Conditions of Surgery of Intestines. G. R. Curran, Mankato, Minn.
28 *Bacteriology of Epidemic of Paratyphoid Fever. E. T. F. Richards, St. Paul.

24. **Diseases Associated with Enlargement of Spleen.**—Two cases of wandering spleen have been operated at St. Mary's Hospital. Another patient had been operated on elsewhere for movable kidney apparently as the result of a mistaken diagnosis. The kidney had been stitched up but the tumor, which, on palpation, showed all the characteristics of spleen, remained as movable as before. One patient with tuberculous enlargement of spleen was operated on in 1904 and made a good recovery, but died four months later. One patient on whom splenectomy was done for what was morphologically lymphosarcoma has remained well for seven years. In another case a diagnosis of lymphoma was made, and the patient has remained well for a year and a half. Clinically these two cases presented the syndrome of splenic anemia.

Three spleens of the Gaucher type of endothelioma have been removed at St. Mary's Hospital. The clinical histories were those of splenic anemia. In all, twenty-seven splenectomies have been done at the Mayo Clinic, from April, 1904, to July, 1912. Of these cases, eighteen conformed most nearly to the group commonly regarded from a clinical standpoint as splenic anemia.

26. **Splint for Fractured Clavicle.**—The splint devised by Leland is made of iron wire (¼ inch) after the manner of the Cabot splint, bent in half, the two extremities bent again to the border of the axilla, then downward and forward beneath the axilla with a final upward turn grasping the shoulder. The fulcrum is between the scapulas, the lever extending down the spine, padded with sheet-wadding, and bound with a flannel bandage. The axilla and seat of the fulcrum are padded while retraction is maintained by a three-inch roller bandage passing about the chest, first having made several turns about the extremity of the leverage. Retraction is most assuredly produced, and no advantage can be taken of it later by any slipping, etc. Applied under the clothing, the shoulder is exposed to inspection, and there are no adhesive plaster attachments. It is said to be as comfortable as any retentive dressing can be, consistent with results demanded. The arm is put in repose by the aid of two roller-bandages (2 inch) applied over sheet-wadding, one beginning at the wrist and applied to the elbow, while the remainder begins at the shoulder and also terminates at the elbow. The forearm bandage leaves an extremity 6 inches long at the wrist which is split down its middle tied in a knot, [illegible] wrist. The two ends resulting are left to support the hand at opposite the shoulder. At the elbow this bandage passes in at the flexed elbow and is brought out and over the external [illegible] of the arm above the elbow. The arm bandage then passes back of the neck to the uninvolved shoulder, and the forearm bandage in front of the neck to the same shoulder, where they are tied in a knot, encircling that portion of the splint in the axilla when the final knot is secured. Then the arm is supported by pinning the wrist-piece to the shoulder [illegible] without pulling on the neck.

27. **Surgery of Intestines.**—The conservative method to which Curran calls attention is invagination of intestines, when the vitality of the lumen, up to 6 inches, is impaired, instead of resection of the injured bowel and anastomosis. He says that if invagination is used in cases in which resection has occurred, how much more, then, should it be used when the septic lumen of the bowel does not need to be opened? It can be used in many cases, not malignant, in which the pathologic condition of the intestine will lead to necrosis, or in which the serous coat has been destroyed, which would eventually lead to many adhesions. He has used this method in over a dozen cases, both of traumatic and pathologic origin, turning in as much as 6 inches of the lumen of the intestine without any untoward result whatever. In one case of traumatic shock he felt that the patient might not have withstood a resection.

The technic is described as follows: Find the center of the part to be invaginated and then with a pair of forceps push this part into the lower segment of the intestine. Insert three stay-sutures to bring the healthy bowel above and below together, one at the mesentery at each side, the other in the center of the intestine, and then with a needle and linen thread and the Glover stitch rapidly turn in the serous coat, going deep enough to take in the muscularis mucosa or even the mucous membrane itself.

28. **Bacteriology of Epidemic of Paratyphoid Fever.** In a series of thirty cases presenting a somewhat varied clinical picture, blood cultures performed by Richards in seven yielded in each instance a pure growth of an actively motile, gram negative bacillus. This bacillus differed essentially in its cultural properties from *Bacillus typhosus* and *Bacillus coli*. In its growth on carbohydrates it conformed with the paratyphoid organisms. Both from its behavior in litmus milk and its reaction to certain submitted agglutination tests, the bacillus isolated in this epidemic is believed to be *Bacillus paratyphosus*. Among the individuals from whom the organism was obtained were two who assisted in the preparation and serving of food. This, together with the peculiarly limited distribution of the epidemic, is believed to justify the conclusion that the disease was due to an infected food-supply. Richards emphasizes that a positive Widal reaction does not exclude the diagnosis of paratyphoid. An accurate diagnosis of paratyphoid infection can with certainty be made only by the isolation of the paratyphoid organism from the blood.

37. **Dermatitis.**—Infectious eczematoid dermatitis is a well-defined clinical and pathologic entity, and, Sutton says, should be separated from the group of pustular eczemas in which it has heretofore been included. It is very probably due to the yellow or white staphylococcus. Histologically, infectious eczematoid dermatitis differs from dermatitis repens (a term which also includes the so-called acrodermatitis perstans of Hallopeau) principally in the location of the inflammatory process, and the cutaneous structures involved. In the first named, the pathologic changes are confined almost wholly to that portion of the corneous layer which overlies the stratum lucidum, while in the last, the infection is more deeply seated and the prickle cell layer bears the brunt of the attack. The histologic findings readily account for the difference with which the two diseases respond to treatment. Infectious eczematoid dermatitis is quickly and favorably influenced by the simpler and milder antiparasitic applications, and, when properly treated, an attack seldom extends over a fortnight. In dermatitis repens, on the other hand, it is usually very difficult to bring about a cure, and the disease often persists for months in spite of the most vigorous treatment. Vaccine therapy properly employed, is of great value in combating both infectious eczematoid dermatitis and dermatitis repens.

38. Published in The Journal, Sept. 21, 1912, p. 937.

New York Medical Journal

February 15, XCVII, No. 7, pp. 321-372

40 Asellius and Discovery of Lymphatic Circulation. F. P. Henry, Philadelphia.
41 Friedmann's New Tuberculosis Remedy. H. J. Achard, Chicago.
42 Acute Gonococcal Urethritis in Male. V. C. Pedersen, New York.
43 Multiple Professional Cramps in a Psychasthenic. T. A. Williams, Washington, D. C.
44 Relation of Scoliosis to School Seating. J. W. Sever, Boston.
45 Routine Disinfection of Schools. J. T. A. Walker, New York.
46 Ether, Hot or Cold? C. R. Hervey; Oswego, N. Y.
47 Relation of Eustachian Tube to Chronic Catarrhal Otitis Media. H. Hays, New York.
48 Epidemic Meningitis. F. J. Slataper, Houston, Texas.
49 The Wrosted Truss. W. B. Jennings, New York.
50 Carcinoma of Lung. M. Freiman, New York.

New York State Journal of Medicine, New York

February, XIII, No. 2, pp. 61-116

51 Operative Treatment of Fractures. J. B. Walker, New York.
52 Radical Abdominal Operation for Cancer of Cervix. L. Broun, New York.
53 Plan for Betterment of Economic Condition of Medicine. E. E. Harris, New York.
54 *Dementia Praecox Without Delusions or Hallucinations, a Type Most Frequent Outside of Hospital. G. H. Kirby, New York.
55 Problem of Toxic-Infectious Psychoses. A. Hoch, New York.
56 *Hospital Treatment of Communicable Diseases. W. S. Goodale, Buffalo.
57 Small-Pox and Vaccination. F. C. Curtis, Albany.
58 *Use of Bouillon Culture of Staphylococcus Pyogenes Aureus in Diphtheria Convalescents and Bacillus Carriers R. G. Wiener, New York.
59 Prevention of Occupational Diseases. W. G. Thompson, New York.
60 The Social Evil. J. Pedersen, New York.
61 Relation of General Practitioner to Prevention of Venereal Diseases. P. B. Brooks, Norwich.

54. **Dementia Praecox.**—Three cases are cited by Kirby as illustrating this condition. 1. Male, aged 20, in childhood was noticeably deficient in social and altruistic feelings; a seclusive personality without wholesome companionship in the family or outside of it; fairly well endowed intellectually but deficient in application and lacking in interest. In dealing with the sexual instincts of puberty he was apparently without sufficient healthy balancing interests; with excessive masturbation and absorption in sexual topics he lived more and more within himself and deteriorated into a state of grave apathy, showing also constrained behavior, mannerisms, silly smiling and diminished power of attention. No incoherence in the stream of thought. No delusions or hallucinations. 2. Male, aged 22, whose make-up was plainly of the shut-in type. Stubbornness and absence of strong emotional attachments were also prominent traits. Backwardness at school, partially accounted for by myopia. Masturbation from the age of 12. Gradual deterioration in interests, loss of energy, finally an idle apathetic state. No distortion in the stream of thought. Delusions absent; on one occasion he imagined that he heard his dead mother whisper that he should stop masturbating. 3. Male, aged 44, physician, from early youth presented many signs of a seclusive personality. He was, however, ambitious and energetic and later his professional work served to bring about considerable contact with the external world. As to his inner mental life little is known; the patient claims there is nothing to reveal. He appeared always sexually indifferent; denies masturbation. A falling off of interest and energy began at about the age of 32; the shut-in tendency became markedly accentuated; the patient gradually severed all connection with the outside world and settled into a secluded, apathetic existence without ever giving utterance to any trend of delusions. The personality remains well preserved; there is no oddity in behavior and no thought distortion. The outstanding features in this group of cases appear to be the following: The appearance in childhood of signs of a shut-in type of personality. This is probably a very deeply rooted tendency and has much to do with later developments. In fact, what we call the deterioration in these cases is, in its broadest aspect, nothing more than "a growing inward," a tendency to ignore the external world, a living apart without further interests in the affairs of life. Standing in close relation to this shut-in disposition is the difficulty in sexual adaptation, the auto-erotic traits appearing early, and masturbation becoming a fixed habit. The deterioration seems to begin in most cases at about the age of puberty when the difficulties in dealing with the sexual instinct are most acute. The decline may, however, begin much later. Kirby feels that dementia praecox of this type may be much more prevalent than we are aware of because most of the cases are likely to remain outside of the hospital. The recognition and further investigation of these cases is of practical importance, as many children who fail at school or who "break down" at about the age of puberty belong in this group; among abnormal characters and the dependent classes generally many cases of this kind of deterioration are probably to be found. In the clinical analysis of these cases we find no indication of the mechanisms usually found in dementia praecox, and therefore absence of all symptoms and trends which ordinarily come about in reaction to disturbing complexes. These cases serve to emphasize the fundamental defects in make-up and faulty mental habits as the chief factors in bringing about the deterioration. Above all there stands out the tendency to live a shut-in existence with inadequate sexual adaptation.

56. **Communicable Diseases.**—In Goodale's opinion, communicable diseases, including acute and chronic pulmonary tuberculosis should be treated in proper institutions and commitment to the same made mandatory. It necessarily follows that in order to make this procedure popular and practical, every municipality must maintain such an institution in a fitting manner. The building should be of the best, both in architecture and equipment. The grounds ample as well as beautiful and the location accessible. The interior workings of a contagious disease hospital must be made attractive to the public and the physician. In providing good food, and the best nursing and resident medical care obtainable, together with arranging proper diversions for convalescent patients, including suitably controlled visits from parents and friends, the first mentioned condition will have been complied with. The second condition, that of catering to the family physician, can only be met by putting these institutions under the control of the local department of health to be governed by a well-equipped superintendent and a sufficient number of well-paid resident physicians and other employees. The policy of the house must be "wide open" in reference to methods of treatment and the various accepted schools of medicine. In other words, every physician of the community holding a diploma entitling him to practice medicine should be accorded the privileges of the house at all times regardless of the fact whether or not his patients are pay, city or county cases. No one person in a community can do more toward popularizing an institution of this sort than a physician. Hospitals for communicable diseases

and upper dorsal spine by means of a large posterior splint, but in the dorsal and lumbar regions, no immobilization of the spine is necessary. The patients should be kept flat on the back for the first few days, and they usually prefer that position as the most comfortable. When the laminectomy has been done in the lowermost dorsal or lumbar and sacral regions, great care should be taken that the dressings are applied so as to guard against soiling of the wound with urine or feces. This is, of course, very important, for so many of the patients who require a spinal operation in one of these regions are, from the nature of their disease, more or less *incontinent of urine and feces. Soiled dressings must be* replaced by clean ones at once, not only for hygienic and esthetic reasons but to avoid infection, as with *B. coli.*

83. **Subcutaneous Rupture of Diaphragm.**—Riebel's paper is summarized as follows: The diaphragm in man has an important influence on the heart's action, by its anatomic relation to the heart and pericardium. It is an important factor in the circulation by aiding venous return, especially from the abdominal cavity. It plays an important part in maintaining equilibrium in the thoracic cavity. Rupture of the diaphragm *must needs be followed by serious disturbances in internal* respiration and in the equilibrium within the thoracic cavity. The inevitable prolapse of abdominal organs following subcutaneous rupture still increases this condition, frequently producing a state of positive pressure in the thoracic cavity. The use of differential pressure is absolutely necessary to overcome these factors. It will insure better results, in these cases, permitting, furthermore, the choice of abdominal or transpleural route or both as the occasion requires. The character of pressure, whether positive or negative, is of little consequence, but the method of Meltzer is simple and can be used anywhere. In cases of suspected subcutaneous rupture of the diaphragm, insufflation should be employed with low pressure (10 to 15 mm.) before operation, to overcome the deleterious effects of disturbed intrathoracic equilibrium.

85. **Influence of Myomata on Blood-Supply of Uterus.**—The material for this study consisted of 150 injected uteri containing one or more of these tumors. The material for this study may be grouped according to the clinical diagnoses made before the operation, as follows: myomata, 79; pelvic inflammatory conditions, 20; uterine bleeding of obscure origin, 16; ovarian cysts, 12; carcinoma of the cervix, 8: carcinoma of the body, 5; descensus and retrodisplacements of uterus, 5: ectopic pregnancy, 3; hydatidiform mole, 1; sarcoma, 1. This shows how frequently myomata are encountered when operating for other conditions; i. e., over 47 per cent. of the material was obtained at operations which were undertaken for other conditions than myomata. Sampson's examination revealed the following: Small subserous myomata are relatively anemic and do not have any appreciable influence on the uterine circulation. Large subserous myomata are very vascular (arterial), and cause a *hypertrophy of the uterine artery* from which their nutrient artery arises, and thus more blood is carried to the uterus and tumor, the excess over the normal being diverted to the tumor. More venous blood is carried back to the uterine and ovarian veins. The chief arterial and venous changes are in the peripheral zone of the uterus; the radial zone and endometrium are but very little affected, and menstruation is usually not altered. Small intramural myomata are less vascular than the myometrium and apparently have very little influence on the circulation of the uterus, and usually menstruation is not altered. As cases sometimes occur with a history of menorrhagia or metrorrhagia in which small intramural myomata are found, these cases suggest that those tumors may in some way lead to uterine inefficiency, especially muscular inefficiency, with a resulting loss of control of the venous circulation of the uterus. Intramural myomata over 2.5 cm. in diameter are usually more vascular arterially than the myometrium, but less vascular venously. Some of the large tumors are so very vascular that the injected specimen appears more like an arterial angioma than a myoma. The greater the arterial supply of the tumor, the greater the increase in the arterial supply of the uterus, at least, the greater part of the increase over the normal is diverted from the uterus to the tumor. The venous plexus of the myometrium is always dilated, and this is most marked about the periphery of the tumor, and especially in places where the pressure is least. The venous uterine congestion is apparently mainly an active one, and the uterine walls are apparently hypertrophied in order to control it. The endometrium, if not encroached on by the tumor or tumors, is often hypertrophied, and its venous plexus is also dilated. Menstruation may or may not be affected, and when excessive or abnormal bleeding occurs it is apparently due to a loss of uterine efficiency; *i. e., the uterus is unable to prevent the escape of an* excessive amount of blood into the uterine cavity at the menstrual flow. *The regenerative change following menstruation, i. e., menstrual involution, is also sometimes retarded.* This may be due to changes in the endometrium, which are possibly dependent on the disturbance in circulation. Intramural myomata which encroach on the uterine cavity alter the shape of the cavity and intercept or push to one side the radial arteries which supply the endometrium over the tumor, and this, with the pressure exerted by the myoma, causes an atrophy and anemia of this portion of the endometrium. The endometrium directly opposite the tumor may also be thinner and less vascular than normal, due to the pressure of the tumor. The endometrium not directly or indirectly encroached on is always thicker and more vascular and is often actually hypertrophied and its venous plexus more dilated than normal. The condition of the endometrium in any specimen is dependent on the age of the patient and the phase of menstrual cycle when the uterus was removed. The menstrual flow arises mainly from the endometrium not directly or indirectly encroached on by the tumor; i. e., the endometrium, which has an abundant blood-supply, contains glands and is usually hypertrophied. The atrophied, anemic endometrium over the tumor which has a poor blood-supply, and in which the glands are few in number or entirely absent, takes a very small part *or none at all in the menstrual flow.* Disturbances in menstruation *may or may not occur.* The profuse flow, when it occurs, is only in a measure dependent on the increased amount of venous blood in the plexuses of the myometrium and endometrium, the larger channels uniting the two plexuses, and the hypertrophy of portions of the endometrium and the distortion of the uterine cavity making it more difficult to close. This disturbance is apparently due more to the failure of the uterus to control the venous blood under these adverse circumstances and a retardment of the regeneration or repair of the endometrium. Two specimens may appear the same, yet in one, menstruation is normal, and in the other, excessive; nor can we discern anatomically why both should not give the same menstrual history. Occasionally, dilated veins in the endometrium over the surface of the tumor may become eroded and give rise to abnormal bleeding, but the usual and chief source is from the portion of the endometrium described above. *Submucous myomata represent a later stage of the intramural* variety, and the veins over the surface of the tumor are more apt to become injured or undergo degeneration than those over the intramural tumors. The source of the profuse menstruation is usually the endometrium not encroached on by the myoma. Menstruation is more often abnormal, but may be normal.

Only twelve uteri were encountered containing adenomyomata, and in all twelve other types of uterine myomata were also present. These cases showed that disturbances in menstruation are not necessarily present, and when they occur they may be due to changes caused by other myomata in the specimen. On the other hand adenomyomata *may cause menorrhagia or metrorrhagia, just as other intramural myomata encroaching on the uterine cavity do.* When abnormal bleeding is present, it is apparently dependent on the same factors as other types of myomata, and the excessive flow does not arise from the tumor itself. Sampson's studies have led him to believe that when the bleeding arises from the tumor itself, due to sloughing or sarcomatous changes, it would be arterial (the tumors have a rich arterial supply), and not venous, as occurs from the endometrium

86. **Typho-Tuberculous Tubo-Ovarian Abscesses.**—In post-typhoid pelvic abscesses, the *B. typhosus*, according to Fullerton's studies, probably plays a more important rôle than is suspected. Puerperal infections coincident with or shortly following a typhoid infection may often have the typhoid organism as a causative agent. With these conditions, a careful inquiry into the past history for typhoid infections will probably bring out some interesting results, especially when coupled with a careful bacteriologic examination of all pus from pelvic abscesses. With a previous pelvic infection, which is more or less destructive and lowers the resistance of the parts, one would naturally more often expect to find a secondary infection. The simplest and most plausible mode of infection is by way of the blood-stream. Hexamethylenamin, which has proved so useful in preventing post-typhoid cystitis, cholecystitis, etc., though its excretion by the uterine and tubal epithelium has not yet been proved, may here be found to be of advantage, at least in the prevention of such a post-typhoid complication.

88. **Causation of Cancer.**—Packard's conclusions are based on the theory that all forms of malignant disease are possible only because of absence of or loss of immunity, and the invasion of the susceptible organism by some as yet unknown parasite. He says that it is reasonable assumption that all animal life in a normal state of environment and supplied with nutriment bearing all the organic ingredients necessary for the upbuilding and maintenance of a healthy resistant vitality, possesses in itself a protective immunity to cancer. In view of the apparently well-established fact that in the vegetable world an adequate supply of the earth-salts (phosphatic, potassic, ferric, manganic, silicic, sodic) act as a distinct deterrent on parasitic life and make for vigorous, virile, disease-resisting, healthy life, may we not assume as much for the animal world? Since a critical examination of the habits of life of civilized cancer-plagued people, in comparison with the habits of primitive cancer-free people shows that the main difference is in a dietary poor in food salts of the former and a dietary rich in food salts in the latter, the most logical and rational course is to adopt this as the keynote to cancer treatment. A well-balanced dietary must be adopted, including not only proteids, carbohydrates and fats, but also food salts.

91. **Closing Wound After Excision of Saddle Ulcer.**—In a case operated by Williams and in which a saddle ulcer 4 cm. from the pyloric ring was excised, the usual method of closure was utilized throughout, except that on the posterior surface the peritoneal apposing suture passes through all of the coats of the stomach, being passed from the inner side, which greatly simplifies the placing of this layer. Williams believes that this method of suturing is original with him.

95. **Procidentia Uteri in Elderly Women.**—Fletcher's operation is essentially an abdominal hysterectomy, the uterus being amputated at the internal os, and the stumps of the broad ligaments, together with the round ligaments, being utilized (according to the Gilliam principles of suspension) as a secure means of supporting the cervix stump and bladder close to the pubic bone. The abdominal operation is preceded by: amputation of the cervix, anterior colporrhaphy and perineorrhaphy.

Texas State Journal of Medicine, Fort Worth

February, VIII, No. 10, pp. 255-286

99 Modern Treatment of Errors of Refraction. R. W. Moore, New York.
100 Ulcer of Cornea. R. S. Killough, Amarillo.
101 Public Health is Public Wealth. J. M. O'Farrell, Richmond.
102 Importance of Head Specialists in State Eleemosynary Institutions. J. R. Nichols, Austin.
103 Some Tubal Infections, from Practitioner's Standpoint. J. A. Hill, Houston.
104 Treatment of Septic Uterus. L. A. Suggs, Fort Worth.
105 Competition in Surgery. P. H. Chilton, Comanche.

West Virginia Medical Journal, Wheeling

February, VII, No. 8, pp. 255-288

106 Etiology and Prognosis of Insanity. J. R. Bloss, Huntington.
107 Alcohol and Heredity. C. C. Wholey, Pittsburgh.
108 Ulcer of Cornea. J. L. Dickey, Wheeling.
109 Gastric Ulcer: Report of Case. W. Neill, Charles Town.
110 Non-Surgical Treatment of Lacerated Cervix. R. H. Pepper, Huntington.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

February 8, I, No. 2719, pp. 265-320

1 *Vaccines and Fever. E. C. Hort.
2 Apyrexial Typhoid. N. Flower.
3 *Simple and Rapid Method for Administration of Subcutaneous Salines. E. M. Woodman.
4 Adrenalin in Emergency Treatment of Non-Corrosive Poisoning by Mouth. J. L. Jona.
5 Late Vasomotor Paresis Due to Adrenalin. H. Whale.
6 Breaking of Vicious Circle. J. B. Hurry.
7 *Treatment of Muscular Paresis by Means of Eccentric Movements. R. Abercrombie.
8 Raynaud's Syndrome and Syphilis. H. Semon.

1. **Vaccines and Fever.**—The first statement made by Hort to serve as a basis for discussion is this: In the great majority of infective diseases accompanied by marked systemic disturbance the most prominent clinical feature is that form of intoxication which is expressed in fever. The relationship of fever to general infection is so constant that whenever continued fever occurs we may be almost certain that an infective process is at work. Continued fever is in fact an index both of the continued activity of microorganisms pathogenic to the individual infected and of the absence of effective protection against such activity. On the other hand, the absence of fever does not necessarily indicate the absence of infection. On the contrary, it is a familiar experience that in severe infections leading to a fatal issue there may be no fever on account of grave impairment of the reactive functions of the infected body. This impairment may exist prior to infection or may be the expression of extreme intoxication after infection has occurred.

While the continuance of fever is an excellent indicator of the continuance of infection and of the absence of effective immunity thereto, it is also an index that the power of reaction—whatever that may prove exactly to mean—is not yet lost. The power of reaction to infection in terms of fever is in some unknown way intimately associated with the complex problems presented by immunity. The mere presence of continued fever is a sure sign that the machinery of immunization has been set in motion and is still running. The solution therefore of the mystery that surrounds the nature and source of the substances that are the immediate cause of the fever of infective disease can hardly fail to throw light on many of those problems in immunity which are at present totally obscure. Hence determination of the essential cause of the fever of infective disease—from the pathologic standpoint as opposed to that of physiology—is a matter of immediate concern to all students of immunity. And this particularly applies to those who administer dead bacterial vaccines, whether for purposes of prophylaxis or of treatment, as well as to those who make use of bacterial emulsions in test-tube reactions.

In the pathologic problems presented by fever, inquiry must always start from the pyrogen, or substance that provokes the manifestation of fever. Hort's observations appear to show that organisms recovered from tissues other than the blood, and injected at once, possess no pyrogen, but that when grown on laboratory media they readily elaborate a contaminating pyrogen from such medium, which they subsequently adsorb. They also show that the concentration of body pyrogen cannot be high in the infected organs, since the tissue material injected in some of the cases was considerable in amount. Owing to the difficulty, however, of freeing organisms recovered in this way from tissue debris, their enumeration cannot be carried out satisfactorily. Moreover, it is conceivable that absence of pyrogen in the dead organisms after recovery from the body might be explained by exhaustion of any pyrogen they might have contained while in the body during the continuance of fever. The low concentration of pyrogen, however, already demonstrated in the blood-plasma during high fever, and the fact that injection of organisms recovered from the body at an earlier stage of an infection shows them also [illegible] free, mak[illegible] view improbable. In evidence here presented, Hort says it is difficult to resist the conclusion that a rising temperature is not—as we have paradoxically been led to believe—a sign of increase of bactericidal and bacteriolytic function, but is, on the contrary, an expression of the activity of living organisms. Dead organisms, in short, do not in natural infections give rise to fever.

3. **Administration of Subcutaneous Salines.**—The only requisites for Woodman's method are (1) a large silver cannula from a Southey's tube apparatus; (2) Southey's rubber tubing; (3) a small piece of glass tubing, narrow at one end to fit this tubing, and larger at the other (for this an ordinary clean fountain-pen filler does very well); (4) a large glass funnel connected to the glass tube by rubber. The various parts are joined together and the whole sterilized by boiling.

The mode of introduction differs considerably from the usual method. The anterior axillary fold is grasped firmly and drawn outward. The trocar with its cannula is then passed into the skin in a direction vertical to the chest wall and is pushed steadily through the axillary fold so that its point emerges within the axilla. The trocar is then withdrawn and the cannula is pressed onward into the axilla until its shoulder rests flush with the skin. The fluid as it emerges from this cannula spurts in all directions and is poured out into three distinct planes, separated anatomically into watertight compartments by the deep fascial layers. Into the most superficial of these fluid flows into the fatty tissue over the pectoral muscle and around the breast and extends upward over the clavicle into the neck. Beneath this saline exudes into the pectoral muscles and is limited by the deep fascia on either side. Absorption is here rapid owing to the great vascularity of the part and to the pressure maintained by the fascial limitations. Lastly, distention of the axillary space takes place and the normal concavity of the axilla is replaced by a rounded swelling. Woodman says fluid is absorbed very rapidly when introduced in this way and two pints can be run into the tissues in twenty minutes, little trace of swelling being found after an hour.

The cannula is left *in situ*, and the administration can be repeated as often as necessary. This method has one disadvantage. The introduction is rather painful, but in the majority of cases the patient is still under the influence of the anesthetic when the administration is given or is so collapsed as to be insensitive to pain. This objection is more than compensated for by the ease of introduction and rapidity of absorption of a large quantity of saline by means of a simple appliance which every practitioner has at his command.

7. **Treatment of Muscular Paresis.**—In order to perform eccentric movements, the manipulator first brings the affected muscle into its shortest position and then gradually elongates it, while the patient resists the elongation. Abercrombie claims that such movements are of more value in the treatment of paresis than the more ordinarily employed muscular movements.

Dublin Journal of Medical Science

February, III, No. 494, pp. 81-160

9 *Case of Tubal Pregnancy Attended with Serious Symptoms Without Rupture. R. D. Purefoy.
10 Interstitial Keratitis. F. A. Anderson.
11 Sanatorium Benefit in Ireland. R. J. Rowlette.

9. **Tubal Pregnancy Without Rupture.**—A healthy young woman, aged 35 years, was married in February and menstruated regularly for three months. The intermenstrual periods were then shortened by two or three days. In September, after an interval of five weeks, she experienced severe pains and passed fluid and clotted blood per vaginam for a few days. Subsequently much internal soreness was felt, especially when being driven or "jolted" in any way. About three weeks later another attack of severe pain occurred, also attended with slight bleeding and at the same time micturition became frequent and was attended with difficulty.

On making a vaginal examination at this time the uterus was found driven downward and forward against the symphysis, and Douglas' space was occupied by a soft and exquisitely tender tumor. The pulse and temperature were normal, but the patient's appearance indicated a marked degree of anemia. Absolute rest in bed was prescribed and also a mixture containing iron and chlorid of calcium with small doses of morphin. Under this treatment steady improvement and relief of all the symptoms ensued, the only remaining sign of the illness, so far as the patient knew, being a brownish discharge, which persisted for several weeks.

Early in December, 1912, the patient came under Purefoy's care. At this time the physical signs were much as already described and the state of general health was good. The brownish discharge still persisted, and a globular swelling, adherent to the surrounding structures, occupied Douglas' space. Purefoy advised an operation for the removal of the swelling and this was carried out a few days later. He found that the tube, distended with blood but still unruptured, formed the tumor in the pelvis, and when the adhesions were broken down its removal was easily effected, and was followed by an easy and satisfactory convalescence. In this instance the history and physical signs strongly suggest an extra-uterine pregnancy, in the course of which rupture of the tube took place, attended with serious loss of blood. On examination of the specimen no rupture could be detected, so that Purefoy concluded that the severe pain was due to distention and stretching of the tube by blood.

Edinburgh Medical Journal

February, X, No. 2, pp. 97-192

12 Malingering. B. Bramwell.
13 Direct Laryngoscopy, Tracheobronchoscopy and Esophagoscopy. A. L. Turner and J. S. Fraser.
14 Treatment of Syphilis by Salvarsan. A. P. Mitchell.

Glasgow Medical Journal

February, LXXIX, No. 2, pp. 81-159

15 Sporadic Congenital Deafness and Deafness from Syphilis. J. K. Love.
16 Aseptic, Antiseptic and Prophylactic Measures in Ophthalmic Surgery: Observations Made in Various British and Continental Hospitals. E. Thomson.

Journal of Pathology and Bacteriology, Cambridge

January, XVII, No. 3, pp. 281-431

17 *Investigation into Cause of Rouleaux Formation by Human Red Blood-Corpuscles. H. Wiltshire.
18 *Fibrinemia. J. O. W. Barratt.
19 Human Tubercle Bacilli in Milk of Vaccinated Cow. A. S. Griffith.
20 *Transplantable Carcinoma of Kidney of White Rat. G. W. Nicholson.
21 Experimental Trypanosome Anemia. A. E. Boycott and C. Price-Jones.
22 Agglutination and Sedimentation: Their Bearing on Water Storage. M. Coplans.

17. **Rouleaux Formation.**—The lack of an exact method of measuring the degree to which rouleaux formation is present makes the study of this phenomenon in disease most unsatisfactory. It is stated to be deficient in all forms of anemia, in Raynaud's disease and in sunstroke; and increased in all forms of suppuration, pneumonia and acute rheumatism, owing to increase in power of the serum. Wiltshire obtained definite results in pernicious anemia only. Six cases were examined, and, in five, rouleaux formation was found to be distinctly defective in fresh films. On examination of the serum and washed corpuscles separately, this deficiency was found to be due to some fault in the corpuscles. The sera of these cases formed rouleaux well with normal corpuscles, but each serum was practically inert with its own corpuscles. Further, the corpuscles of these cases formed very poor rouleaux with normal serum. The sixth case seemed to be exceptional, good rouleaux being formed. Poikilocytosis will not account for deficiencies on the part of the corpuscles, since it may be present to a marked degree in other types of anemia which show good rouleaux formation.

The results of Wiltshire's experiments are summarized as follows: 1. The viscosity of the fluid medium in which red corpuscles are suspended exerts a slight influence on rouleaux formation. 2. Certain colloids, such as gum, will cause formation of rouleaux of red corpuscles. 3. Serum or pathologic fluids which will form rouleaux lose this power when diluted to a slight degree. 4. Blood-serum rapidly loses its power to form rouleaux when kept, but the rate at which this change takes place is subject to considerable variation. 5. The same may be said of the corpuscles. 6. The effect of temperature on "serum body." (a) "Serum body" is probably not injured by a temperature of 100 C. acting for fifteen minutes. (b) The power of serum appears to be increased by exposure to 60 C. for fifteen minutes. (c) The loss of power of serum when kept is delayed by heating to 60 C. for fifteen minutes. (d) Serum which has lost power completely does not regain it when heated to 60 C. for fifteen minutes. (e) "Serum body" is not injured by freezing. 7. Saturation. In this respect "serum body" does not react like hemagglutinin. 8. Pathologic exudates. (a) Inflammatory exudates have very marked rouleaux-forming power. (b) Passive exudates are weak or powerless. (c) Both retain their power when kept. (d) The marked power of inflammatory exudates is not related to activity on the part of any special type of cell. 9. Injuring cells or keeping them in contact with serum does not appear to influence the power of that serum. 10. Certain bacteria when grown in serum cause a marked power for rouleaux formation to appear. Other bacteria are inert in this respect. Iso-agglutinin is unaffected by these bacteria. 11. Red corpuscles lose their power to form rouleaux when subjected to comparatively low degrees of heat (38 C. to 45 C.). 12. The corpuscles also lose this power under the influence of carbondioxid and hydrogen, possibly owing to reduction of their hemoglobin. Conversion of oxyhemoglobin into Co-hemoglobin makes no difference. 13. Simple alterations of the acidity or alkalinity of the medium surrounding red corpuscles makes no difference in rouleaux formation. 14. The serum of cases of pernicious anemia possesses normal rouleaux-forming power. The decrease in power seen in this disease is due to some change in the corpuscles. 15. Rouleaux formation is a constant occurrence in normal shed blood.

18. **Fibrinemia.**—Barratt found that when thrombin or thrombokinase is injected intravenously into rabbits, separation of fibrin takes place in the circulating blood. The immediate cause of separation of fibrin is in all cases the action of thrombin. According to the rapidity with which thrombin is formed (a) clotting occurs in the heart and great blood-vessels, especially on the right side of the heart, following the course of fluid injected; or (b) masses of fibrin appear in the smaller blood-vessels and capillaries. The former, accompanied by the latter, takes place if separation of fibrin is very rapid: the latter alone if separation of fibrin occurs relatively slowly. The symptoms produced are in part, if not wholly, due to mechanical interference with the circulation. No evidence is forthcoming of an additional toxic effect produced by the fluid injected.

20. **Transplantable Carcinoma of Kidney.**—An old rat, with symptoms of uremia, was found to have double hydronephrosis with multiple cysts in the kidneys, and an infiltrating alveolar carcinoma in the cortex of the right organ, which had begun to disseminate locally by means of the blood-vessels. The greater part of the primary growth was used for inoculation. The rim only was transplanted, as the bulk of the tumor was quite necrotic. This analysis of the growth of the tumor on transplantation gives the following results: Tumors develop in from 20 to 100 per cent. of all the rats inoculated. Of these, however, a number undergo spontaneous absorption, so that the positive results have varied between 10 and 60 per cent. In the cases of two series there was no permanent growth.

The percentage of successful transplantations has hitherto shown no tendency to increase in later generations. On the other hand, the rate of growth has markedly increased. The majority of the permanent tumors are first noticeable under the skin during the third week, but their appearance may be greatly delayed (seven to eight weeks). The tumors which are to undergo absorption usually do not appear until a week or two later. They grow for four or five weeks and then diminish rapidly in size, having usually disappeared again by the end of a fortnight. At the end of the sixth or seventh week the grafts have a tendency to increase rapidly in size. At the same time they become softer, owing to their centers breaking down and becoming liquefied. When they have attained a great size a large area of skin over their most prominent region usually necroses. The greater part of the tumor is thus extruded, and a deep ulcer, which is lined by new growth, remains. These ulcers show little tendency to heal. In one case only has a large tumor been cured by ulcerating completely away, leaving a scar in which there has been no recurrence. Metastases in the internal organs have hitherto only once been found, even when the tumor has been allowed to run its entire clinical course.

The tumor under consideration was clearly a carcinoma, as was shown by its histology, mode of growth and dissemination along the blood-stream through the parenchyma of the kidney. The histology of the grafts is variable. In addition to large areas of an encephaloid form of growth, there are adenocarcinomatous portions which acini show the commencement of the formation of tubules by the degeneration of their central cells. This hollowing out is of the same type as that occurring during the development of the kidney. In spite of the fact that the structure of numerous sections closely resembles that of the cortex of the suprarenal gland, this hollowing out, together with the evidence adduced from a study of the analogous tumors which have been discribed in mice and in the human subject, point to the conclusion that this tumor, together with most human "hypernephromata," has arisen in the epithelium of the renal tubules.

Journal of Tropical Medicine and Hygiene, London

February 1, XVI, No. 3, pp. 33-48

23 Rôle of Fungi in Sprue. A. Castellani and G. C. Low.
24 Case of Blackwater Fever Showing Cell Inclusions of Leishman. A. Balfour.

Lancet, London

February 8, I, No. 4667, pp. 65-434

25 *Etiology of Endemic Goiter (A Review). R. McCarrison.
26 Tumors of Kidney. R. H. J. Swan.
27 *Bone-Marrow Metastases and Anemia in Gastric Cancer. A. W. Harrington and A. M. Kennedy.
28 *Series of Seventy-Eight Cases of Streptothrix Infection. A. G. R. Foulerton.
29 Remission in Case of Epilepsy. H. W. Carmalt-Jones.
30 Case of Osteomalacia. S. Gray.
31 Congenital Absence of Both Thumbs. J. H. Sequeira.
32 Case of Acute Intestinal Obstruction Following Cesarean Section. J. B. Banister.

25. **Etiology of Endemic Goiter.**—McCarrison has treated well over 100 patients with goiters by thymol, but in eighty-two only was he able to observe the final result of the treatment. Of these eighty-two, sixty-eight were cured, or so markedly benefited as to be practically so; while fourteen were unaltered, or only benefited to a very slight degree. All were selected cases. Thirty-three were of three months' standing or less, twenty-five were of twelve months' standing or less, while twenty-four were of a year's standing or more. The great majority of these cases which could be regarded as cured or very greatly benefited were of less than one year's standing. A few were of longer duration. These were uniform parenchymatous enlargements, some of them showing marked pulsation and engorgement of the vessels of the neck.

The majority of such patients react at once to treatment by thymol, and in some the swelling disappears with great rapidity. Older patients respond less readily to treatment, but in some of these also the results are quite surprising. This treatment, like all others of a medicinal nature, is applicable only to cases of recent origin in which degenerative, cystic and adenomatous changes have not yet taken place. Where such changes have occurred no form of medicinal treatment is of the slightest use. When thymol is prescribed, in such large doses as 10 gr. twice daily, the patient's dietary should, of course, contain no solvents of the drug; otherwise most unpleasant symptoms of thymol poisoning may result. When this rule is observed, no ill effects follow its use, even when administered for such long periods as three months. Apart from a few complaints of burning pain around the anus, none of McCarrison's [illegible] have been in the [illegible] inconvenienced by the [illegible] drug [illegible] [illegible]ered in the form of a [illegible] of water. The bowels should be active, and if there is any tendency to constipation an occasional purge should be given. A striking result of this treatment is the loss of subcutaneous fat which occurs. The patient becomes more clean-limbed and the skin assumes a healthier tint. Beta-naphthol also acts beneficially.

The chief interest which attaches to the treatment of goiter by thymol is etiologic rather than therapeutic. The germicidal power of thymol is very great. McCarrison believes that beneficial action of iodin is largely due to its powerful germicidal properties, which are even more marked than those of thymol. It acts possibly also by supplying to the thyroid that ingredient on which the antitoxic activity of its secretion depends. The internal administration of iodin also leads to leukocytosis, a very desirable object to attain where there is usually a marked reduction of the polynuclear cells of the blood. Its use is attended with a loss of weight and subcutaneous fat, and if the treatment is carried to excess dangerous wasting and palpitation of the heart and other symptoms may arise. The action exercised by the lactic acid ferments when applied to the treatment of recent cases of goiter affords additional evidence that the agent responsible for the production of goiter has its habitat in the intestinal tract of man.

In carrying out this line of treatment McCarrison has used the fresh cultures of the *Bacillus bulgaricus.* He has treated up to the present time only eight patients in this way, but the results have been very striking. His patients were under treatment for a period of one month to six weeks. To some 12 to 20 ounces of "soured milk" were given every morning and 10 ounces in the evening. The cases were all of several months' standing and during treatment there was no change whatever in the manner of life of the patients. They were treated as external cases and carried out their work in the fields as usual. The results cannot be attributed, therefore, to change of locality, habits of life, or water supply. Of these eight patients, four were cured, two improved, and two showed no appreciable difference after six weeks. In those patients who were benefitted by the treatment it was observed that the thyroid began to show evidence of diminution in size about the tenth day of treatment and that the patients lost flesh. The latter fact is of great interest, inasmuch as it is observed to occur also as a result of the treatment of goiter by means of iodin and thymol.

The next step in McCarrison's investigations was the employment, in the treatment of the disease, of vaccines prepared from bacteria found in the feces of sufferers from goiter. Three vaccines were so employed. The first, a composite vaccine made from such organisms as grew on Musgrave's agar; the second, a "coli" vaccine made from the patient's own strain of bacillus coli; the third, a vaccine prepared from a spore-bearing organism which was isolated from the feces of a goitrous pony.

The results obtained by the use of these vaccines were very remarkable, and a complete disappearance of the thyroid swelling took place in all those cases in which there were no degenerative changes in the gland. Vaccines prepared from organisms derived from sources other than the patient's own feces were then employed and equally striking results were obtained with a staphylococcus vaccine—the staphylococcus having been derived from a case of caries of bone. Considerable interest attaches to the fact that a staphylococcus vaccine exercises such a remarkable influence on the enlarged thyroid gland, since the organism is also a normal inhabitant of the intestinal tract of man.

A conspicuous feature of this treatment and one which brings it into line with the treatment by iodin, intestinal antiseptics and the *Bacillus bulgaricus,* is the fact that the patients lose flesh and the skin becomes of a healthier tint. The common factor in all these methods of cure is the fact that they destroy or inhibit the action of the toxic agent of the disease.

27. **Bone Marrow Metastases in Cancer.**—The authors emphasize that in any case of grave anemia the presence of pains and tenderness of the bones should always arouse suspicion of carcinoma of the bone marrow. If the blood on examination shows characters suggestive of pernicious anemia, but with an excess of erythroblasts and myelocytes, the diagnosis of metastases in the bone marrow is highly probable. The case cited seems to show that even in the absence of evidence of myeloid reaction, if there be any suspicion of carcinoma of the stomach, high grade anemia, with high color index and megalocytosis, taken along with the presence of bone pains, renders the diagnosis of bone metastases almost certain.

28. **Streptothrix Infection.**—Foulerton dwells at length on the difficulty of differentiating pathologically between tuberculosis and streptotricosis.

Annales de Gynécologie et d'Obstétrique, Paris

January, XL, No. 1, pp. 1-64

33 *Estimation of Operability of Cancer of Uterine Cervix by Cystoscopic Findings. P. Cruet. To be continued.
34 *Treatment of Syphilitic Pregnant Women. (Du traitement par le salvarsan des femmes syphilitiques en état de gestation.) E. Jeanselme. (Emploi du salvarsan chez les femmes enceintes syphilitiques.) C. Sauvage. To be continued.

33. **Operability of Uterine Cancer as Shown by Cystoscopic Findings.**—Cruet gives twelve colored pictures of the cystoscopic findings in several of forty-five patients with cancer of the uterine cervix, illustrating the different aspect of the interior of the bladder at the various stages of malignant disease in the adjacent organ. The article contains further a number of illustrations in the text. In many cases what seems at first the encroachment of the cancer on the bladder proves to be in reality merely congestion or sympathetic inflammation. Before declaring the cancer in the cervix inoperable, one must be very certain that the changes seen in the bladder and ureters are really the work of the malignant disease. The developing cancer may cause the bladder wall to bulge; this helps to locate the exact site of the cancer. The floor or wall of the bladder may be edematous, thrown up into folds and ridges, with vesicles, shinier and more transparent than when they are the result of ordinary bladder or ureter affections. His experience demonstrates that adhesions causing the development of ridges and depressions in the bladder and diffuse edema, may compel resection of part of the floor of the bladder and a segment of the ureter, as in a case illustrated in which these changes proved to be merely inflammatory in character. The operation on the bladder, however, opened the portal to all kinds of urinary complications. In such cases, therefore, whether the changes in the bladder are malignant or not, they should be regarded as testifying against the operability of the cancer. The operability in such cases with diffuse bullate edema depends more on operative conditions than on the histologic findings.

34. **Salvarsan During Pregnancy.**—Sauvage has supervised salvarsan treatment of twelve syphilitic pregnant women and sifts the records of others to a total of 130 cases. He comments that the action of salvarsan has been studied most thoroughly in its relation to the nervous system, but its attraction for the liver deserves special research, particularly in pregnant women in whom the liver is apt to be below par. The liver in general has an elective affinity for arsenic. Bar and Daunay found transient albuminuria after salvarsan and neosalvarsan in pregnant women, with substances in the urine which reduced Fehling's solution, and urates, all testifying to a special action of the drugs on the liver and kidneys, superposed on the action of the microbian toxins liberated under the influence of the drug. The liver and kidneys during pregnancy usually permit the elimination of the drugs without injury, the same as outside of a pregnancy, yet there is always an element of uncertainty and this is the special danger of this medication during pregnancy. Cases have been published in which the liver and kidneys seemed to be functioning normally and yet the balance was upset so easily that salvarsan caused serious injury. The variable findings with the Wassermann reaction indicate, he adds, that salvarsan has no settled influence on syphilitic infection during gestation. Even when the reaction becomes nega-

tive under the medication it is liable to veer to positive again at any moment. The influence on the fetus is equally uncertain, the fetus may even give a stronger positive reaction than the mother.

Archives des Maladies du Cœur, etc., Paris

February, VI, No. 2, pp. 81-160

35 Origin of Leukocytolysins and Antileukocytolysins. I. I. Manoukhine.
36 Alternating Pulse in Chronic Nephritis. G. Régnier.

Journal de Médecine de Bordeaux

February 2, XLIII, No. 5, pp. 67-78

37 Fracture of the Neck of Both Femurs. H.-L. Rocher.
38 Attenuated Criminal Responsibility. C. Perrens.

Lyon Médical, Lyons

January 19, XLV, No. 3, pp. 97-144

39 The Urea Index. (La constante uréo-sécrétoire d'Ambard. Quelques applications cliniques en chirurgie urinaire.) Gayet and Bouloud. See Abstr. 67, Nov. 2, 1912.

Presse Médicale, Paris

January 25, XXI, No. 8, pp. 69-80

40 *Chorea of the Heart. C. Aubertin and M. Parvu.
41 *Strychnin Dosage. (La strychnine à dose intensive. Méthode et indications.) P. Hartenberg.
42 Surgery of Vessels. (Sur l'anastomose vasculaire. Technique personnelle.) S. Porta.

January 29, No. 9, pp. 81-88

43 *Various Conditions in Which Bile Elements Are Found in Blood. (Les dissociations des états cholémiques.) A. Chauffard.

40. Chorea of the Heart.—Aubertin and Parvu report a case in which the myocardium seemed to participate in the choreic movements affecting the other striated muscles. Moity published a similar case in 1892. The arhythmia was pure and there were no murmurs, no subjective sensations and no valvular insufficiency. The patient was a child of 9 at the fifteenth day of very severe chorea. There had been no preceding acute infection except a history of measles and bronchitis; the family was free from heart disease, chorea and rheumatism. The child's choreic movements persisted during sleep; the face and even the velum participated in the extremely irregular movements, as also the diaphragm and sternocleidomastoid muscles, rendering respiration also irregular. The pulse was irregular and variable but kept about 80 and did not seem to be modified by fatigue or effort. The arhythmia of the heart on auscultation was even more striking than that of the pulse: the heart sounds were accentuated. There was no thrill nor murmur, no evidence of dilatation of the heart nor suggestion of weakness of the heart action. The child did not seem to notice anything wrong with her heart. Under arsenic great improvement in the symptoms was soon evident and all disappeared except the arhythmia which persisted six months after the muscular movements had ceased. During all this time the arhythmia maintained its original character and was never accompanied by a murmur or signs of heart weakness, and finally it subsided entirely so that conditions seemed quite normal when the child was examined eight months later. The arhythmia in this case was characterized by extrasystoles of diverse types or isolated contractions of the auricles. The electrocardiogram showed atypical waves resembling the auricular fibrillation of perpetual arhythmia. Notwithstanding the intensity of this disturbance in the heart it subsided in time without leaving a trace.

41. Strychnin in Large Doses.—Hartenberg regards strychnin as the actual specific for all nerve insufficiency. It acts as a tonic and not as a stimulant, he says, fortifying without irritating or depressing. In this it differs from alcohol, kola, coffee and tea; even in large doses strychnin does not engender motor restlessness, abnormal irritability on the part of the brain nor emotional excitement. Even when a fatal dose is taken, death occurs without loss of consciousness or psychic excitement or delirium. He has made a special study of its therapeutic dosage and has become convinced that the dosage generally in vogue is altogether inadequate. To obtain its full effect strychnin should be given in the largest dose which the individual can tolerate. This maximum varies with different persons but it is indicated by a very exact criterion, namely, the appearance of the physiologic reaction. This physiologic reaction is in reality the sign that the system is under the influence of the drug, the first manifestation of strychninism. It may take the form in one person of slight intoxication, in another of slight dizziness or rigidity of the jaws or of the limbs. Any one of these phenomena is an indication that the physiologic limit has been reached, and the aim should be to reach it. He has found strychnin sulphate the only reliable form. He insists further that the action is more reliable and thorough when the strychnin is given by subcutaneous injection. The above signs showing that the physiologic limit has been reached come on ten or fifteen minutes after the injection and last for half an hour or an hour. Sensitive persons might remain seated for the first half hour after the injection, in which case they will scarcely notice the physiologic reaction. It generally appears after a dose of 0.006 gm. in women and 0.007 gm. in men although men weighing 100 kilograms may be able to take up to 0.01 gm. before the reaction is evident. The same dose repeated after a few days no longer elicits the reaction, and the dosage has to be progressively increased in a cautious tentative manner; questioning the patient each time. The patient soon learns what to expect and is soon a competent guide to the dosage.

By proceeding in this way the patient can stand large doses, 0.01, even 0.02 gm. without his experiencing any more of a reaction than the first time, especially if he remain seated for half an hour after the hypodermic. Hartenberg adds that strychnin is rapidly eliminated—contrary to what is taught in the text-books. The elimination does not require more than three or four hours. He has proved this again and again by injecting the same dose again six hours later, finding that the physiologic reaction is no more pronounced after the second than after the first injection. He has thus given two or three injections of 0.01 or even 0.015 gm. in one day without any inconveniences. The main indications for this intensive strychnin treatment are neurasthenia, debility, cachexia, convalescence from severe disease, anemia, diabetes, cancer and all conditions of "physiologic penury," in addition to its primal indication in all affections of the spinal cord or nerves entailing hypotonicity, weakness and atrophy of the muscles without a tendency to contracture. The action of strychnin in regulating and coordinating reflex mechanism proves particularly useful in tabes, in neuritis and in all forms of amyotrophic paralysis. Of course hypertension in the arterial system, delirium and spasmodic contractures naturally contra-indicate strychnin. This intensive treatment has absolutely no inconveniences, he insists, reiterating that even in this progressive administration there is not a shadow of danger. He has thus given thousands of injections during the last ten years to patients of all classes, delicate women, children and old people, and has never witnessed even a menace of a mishap. All tolerated to perfection the dose graded to their individual sensitiveness. In conclusion he states that as strychnin does not induce any immediate excitement or pleasurable sensations there is no danger of breeding a habit, and there is no discomfort when the drug is abruptly suspended at any time.

43. Bile Constituents in the Blood.—Chauffard emphasizes the importance of discriminating in the conditions due to the presence of bile constituents in the blood between the different elements of the bile and the whole bile. The term cholemia stands for a large number of different and varying conditions with varied significance and prognosis. In studying these conditions the important part is less their common traits than their differences. Biologic chemical study of the blood is coming to overshadow in the importance of its findings the study of the urine, or at least it serves to interpret the findings of urology. Bilirubin and cholesterin may occur in the blood in physiologic conditions but this has not been proved for the biliary acids. When the blood contains all these elements, we have true cholemia with its effects visible in the skin, urine and stools, pruritus and bradycardia. In a recent case of catarrhal jaundice there were two weeks of pruritus and pulse at 36 or 40, climbing up to 80 in an hour after the atropin test, the bradycardia thus the si[illegible] of intoxication of the nerve centers by the bile sal[illegible]tal hemolytic jaundice there is no cholesterin in the blood notwithstanding jaundice for over ten, fifteen or thirty years. Only 20 c.c. of blood-serum is needed for the Grigaut test; this reveals the presence of urobilin in the blood and has demonstrated that when it is found in the urine it is always to be detected in the serum. Brodin's recent research has established that the urea nitrogen and amoniacal nitrogen in the urine fluctuate with the diet but that the residual nitrogen is a relatively stable figure, from 0.05 to 0.1 gm. to the liter of serum in health. In liver disease the amount rises to 0.12, 0.2 or 0.25 gm. which throws light on the nitrogen metabolism in liver affections. Dukes "bleeding time" test reveals further pathologic conditions in the blood, a hemorrhagic tendency in liver disease. When the ear is pricked with a lancet and the blood is sucked up with blotting paper, the minute hemorrhage stops usually in three or four minutes, but in liver disease it keeps up for eight or nine minutes. In a man with tuberculous cirrhosis of the liver it kept up for twelve minutes. Another test for liver functioning is examination of the serum for hemolysins and abnormal fragility of the red corpuscles. Chauffard regards jaundice as the expression of an excess of bilirubin in the blood; the pruritus and bradycardia as the expression of the presence of the cholates in the blood (sodium glycocholate and taurocholate), a condition which he calls cholatemia; the excess of cholesterin in the blood is responsible for the yellow neoplastic growths known as xanthomas.

Revue Médicale de la Suisse Romande, Geneva

January 20, XXXIII, No. 1, pp. 1-96

44 *Ultimate Outcome of Dislocation of the Hip-Joint. (Luxation de la hanche. Résultates éloignés.) Roux.
45 Pseudodiphtheria Bacilli in Middle-Ear Disease. D'Espine.
46 *Tumor in the Heart. (Cas de tumeur du cœur.) C. Horneffer and P. Gautier.
47 Technic for Examination of Sputum. (Supériorité du procédé de Ziehl-Neelsen pour la recherche des bacilles de Koch dans l'expectoration.) G. Kaplansky.

44. **Traumatic Dislocation of the Hip-Joint.**—Roux reviews his experience during the last twenty-five years with traumatic injury of the hip-joint, seeking to estimate the ultimate outcome of such injury, especially from the standpoint of the ter functional capacity in working men. When the dislocation followed by immediate reduction, the outcome is generally xcellent, as such patients are usually young and active, unless the results are compromised by a sedentary life. In his four cases of operative reduction he found the margin of the glenoid cavity turned over inward in one case; a piece chipped off the head and left in the acetabulum in another; the head under the tendon in the third, while in the fourth the parts slipped back into place as the patient was carried to bed but the dislocation recurred the next day. In roentgenoscopy of such patients it is important to examine for preexisting lesions in the skeleton. He reports in detail twenty-two cases with reexamination years afterward and tabulates the findings for comparison. They show that in adults one must always reckon with deforming arthritis sooner or later after a traumatic dislocation of the hip-joint, even of the simplest form. The best means to prevent this seems to be by solicitous after-treatment, prolonged for a period longer than the patient is generally willing to devote to it. The misleading feature of traumatic dislocation of the hip-joint is the fact that both patient and physician are so speedily and thoroughly convinced that everything is all right once more when in reality conditions in the depths of the joint are far from being restored entirely to normal. This applies particularly to unsuspected and hidden lesions in the soft parts. They should be given ample time to heal, until all the minute anatomic relics of the injury have been fully repaired. Age is another grave factor, reducing the general elasticity of the tissues, the amount of exercise, the range of movements and the nourishment of the tissues involved. In estimating the ultimate outcome of the accident, it is wise to be guarded in the prognosis, even although others, especially the authorities on workmen's compensation, may differ with you. In all his cases with perfect functional outcome to date the interval since has been less than six years or the patient was a youth. In senile hip-joint affections, previous trauma as a contributing factor has probably been often overlooked. The more this factor is appreciated, the more often will post-traumatic deforming joint trouble be recognized in cases of alleged chronic rheumatism of a single joint which nowadays we are too apt to ascribe to toxins or microbes. Very often the whole trouble is the consequence of the surgeon's having thrown off the care of his patient too soon. In conclusion, Roux describes what he calls the spade method for reducing the dislocation; it enables a short medical man or woman to manipulate successfully the thigh even of a giant. The anesthetized patient lying on a mattress on the floor, the operator grasps the right leg with his left hand, just below the head of the tibia, and the ankle with his right hand. Then, flexing the thigh to disengage the head of the femur, the operator puts his left knee under the patient's knee and lifts the thigh in this way just as one lifts a heavy spadeful of dirt by levering it over the knee. For a left dislocation the operator will use his right hand and right knee with his left hand on the ankle. The article is well illustrated.

46. **Tumor of the Heart.**—The patient was a man of 43 who seemed otherwise normal. In this, as in three other cases at the Geneva clinic, the heart tumor was in the left auricle in all. In two the tumor was insignificant, but in the others the clinical picture was that of heart disease. It varied from the usual type in that the dyspnea was especially severe. It accompanied distressing paroxysms from momentary occlusion of the opening into the heart. Other features were the brief syncopes on abrupt change of position, rapid loss of weight and strength, duplication of the second sound, suggesting incipient mitral stenosis, arhythmia not modified by heart tonics, and the variability, inconstancy and disconcerting vagueness of the heart findings in comparison with those of other organic heart affections. The clinical diagnosis had been primary myocarditis.

Semaine Médicale, Paris

February 5, XXXIII, No. 6, pp. 61-72

48 *The Adrenal-Muscle Syndromes. A. Sézary.

48. **Adrenal-Muscle Syndromes.**—Besides Addison's disease, there are several other conditions of extreme muscular debility which recent research is connecting with insufficiency of adrenal functioning. Among them is the myasthenia of Erb-Goldflam. This is sometimes accompanied by pigmentation, and the blood-pressure is generally subnormal, while pain in the lumbar or celiac region is frequent, and adrenal organotherapy has proved remarkably effectual in some cases. Sézary suggests that in the cases in which no benefit was derived from it the dosage may have been inadequate. He has seen cases in which subcutaneous injections of the whole extract or ingestion of fresh adrenals succeeded when the powder and epinephrin had failed completely. His experience demonstrates that certain slow changes in the adrenals, alone or with changes in other ductless glands, may induce a myasthenic syndrome which it is impossible to distinguish clinically from myasthenia independent of adrenal functioning. This justifies tentative adrenal organotherapy in all cases of myasthenia, possibly supplementing the adrenal with hypophysis treatment. Time has shown further that amyotrophy may occur from defective adrenal functioning. This is particularly liable in chronic disease, thus linking diffuse amyotrophy with wasting diseases by the intermediation of the adrenals. Laboratory research has demonstrated that epinephrin is utilized by the muscle in its contraction. Consequently the lack of normal adrenal secretion deprives the muscle more or less of the power to contract. On the other hand, an excess of the secretion is liable to entail hypertonicity in the muscle, and this may possibly be responsible for permanent contraction in some cases.

The arterial pressure is the resultant of two distinct forces, the energy of the heart impulse and the sum total of the peripheral resistances. Each of these forces is more or less under the control of adrenal secretion. By its vasoconstrictor action it exaggerates by its excess or reduces by its deficiency the peripheral resistances. At the same time by its parallel action on muscle tissue, it reenforces or weakens the energy of the cardiac impulse. Thus with adrenal insufficiency the arterial pressure sinks and with excessive functioning the arterial pressure rises. Josué has made a special study of this last form, calling it the adrenal-vascular syndrome. Its main elements are excessive adrenal secretion, hypertrophy of the heart and arteriosclerosis. This type is a special form of the adrenal-muscle syndrome.

Berliner klinische Wochenschrift

February 3, L, No. 5, pp. 193-240

49 Functional Disease of the Arteries. Sir Lauder Brunton.
50 Blood-Pressure in Relation to Viscosity. (Einfluss des Druckes auf den Koeffizienten der Blutviscosität.) W. R. Hess.
51 Technic for Determining Carbon-Dioxid Tension in Alveoles. (Bestimmung der Kohlensäurespannung in der Alveolarluft mittelst des Interferometers.) M. Hahn and R. Heim.
52 *Infantile Scorbutus in School Children. (Das histologische Blutbild in schweren Fällen von infantilem Skorbut—Möller-Barlow'sche Krankheit—und das Auftreten dieser Krankheit im schulpflichtigen Alter.) F. Glaser.
53 Degeneration of the Cornea. (Randdegeneration der Hornhaut.) (Dystrophia epithelialis corneae—Fuchs.) R. Seefelder.
54 *Vaccine Therapy of Pruritus. (Heilung des Juckens mit autogener Vaccine.) A. Schischlo.
55 Drop Dosage. (Dosierung von Arzneimitteln in Tropfenform.) W. Beckers.

52. **Infantile Scorbutus in Boy of 6.**—Glaser reports two cases. The second patient was a boy of 6 who refused all food except boiled milk and rolls. After a year of this one-sided diet, he developed infantile scorbutus in a very severe form. The Roentgen findings are given for both cases and the rapid recovery on raw milk and lemon juice in the second case and, in the first, on raw milk, orange and meat juice, spinach and soft mashed potatoes.

54. **Vaccine Therapy of Pruritus.**—Schischlo reports the case of a robust army officer of 31, who twelve years ago had a series of itching furuncles and since then recurring large pimples on the chin with intense general pruritus, aggravated by excitement and temperature changes and rebellious to treatment of all kinds, including sulphur baths in Japan and Russia, radiotherapy and courses of various drugs—all to no effect, and he was contemplating suicide. A vaccine was then made from pus from the chin and this vaccine was injected ten times at three-day intervals. Headache and lassitude followed the first injection, but there was no reaction to the others. The opsonic index dropped after each injection, but climbed up again by the third day each time to a little higher figure, while the drop was less. By the third injection the pruritus began to abate and by the seventh had ceased completely. The vaccine therapy had been undertaken solely as a last resort to heal up the suppurating foci on the chin. The cure of the pruritus had not been anticipated, so that suggestion can be excluded from the result observed. The healing of the foci on the chin probably dried up the source of the toxins which had been maintaining through the years the itching nervous affection.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 18, XLIII, No. 3, pp. 65-96

56 Improved Technic for Resection of Stomach. (Ein epigastrischer Rippenkorbrandschnitt für Magenoperationen, insbes. die Resektion bei Karzinom.) H. Brun.
57 Treatment of Inflammation in Ovaries and Tubes. (Zur Technik der Exstirpation entzündlich erkrankter Adnexe an Hand von 100 einschlagenden Operationen.) O. Beuttner. Commenced in No. 1.

Deutsche medizinische Wochenschrift, Berlin

January 30, XXXIX, No. 5, pp. 201-248

58 *Rachitis. (Zur Pathogenese und Aetiologie der Rachitis.) M. Kassowitz.
59 Hypophysis Extract in Obstetrics. (Klinische Versuche mit den isolierten wirksamen Substanzen der Hypophysen.) S. Herzberg.
60 Transmission of Hemagglutinins in Human Milk. J. v. Zubrzycki and R. Wolfsgruber.
61 Extraperitoneal Cesarean Section. (Erfahrungen über den extraperitonealen Kaiserschnitt.) P. Baumm.
62 Influence of White Corpuscles on Viscosity of the Blood. (Ueber den Einfluss der weissen Blutkörperchen auf die Viskosität des Blutes.) I. Holmgren.
63 Quantitative Precipitation in Syphilis. (Quantitative Ausflockungsreaktionen bei Syphilis.) V. Ellermann.
64 Treatment of Cleft Palate and Harelip. (Zur Behandlung der Kieferspalten und Hasenscharten.) L. Kredel.
65 Treatment of Appendicitic Peritonitis. (Schnittlänge, Bauchspülung, Bekämpfung der Darmlähmung bei Appendicitis-Peritonitis.) Dobbertin.
66 *Syphilitic Otitis Media. (Die syphilitische Mittelohrentzündung.) C. Lüders.

58. **Rachitis.**—Kassowitz differs from Ribbert in some minor points, but agrees with him in assuming that the deficiency of calcium in rachitic bones is not the result of abnormal calcium metabolism, but of morbid local processes at the points where bone is being produced. His own impression is that these local processes are the result of the action of some poisonous substances, but he does not think that they come from the digestive tract. Among the reasons against this is that rachitis can and often does occur in perfectly digesting and finely nourished children, that rachitis is least prevalent during the summer months, and is extremely rare in tropical countries. A number of facts seem to incriminate defective ventilation as responsible for rachitis, especially the maximum in the winter months when young children are kept in the house, the restriction of rachitis to the children of the poorer classes in cities, the statistics showing that the prevalence and severity of rachitis increase with the number of inmates of the home, Hansemann's finding of severe rachitic changes in infants born in the fall and dying in the spring, while they were conspicuously absent in infants born in the spring and living till fall. He found, further, signs of rachitis in all the monkeys examined that had been kept in captivity from early life, while he found no evidences of it in monkeys living in freedom. Heubner has also reported severe rachitis in young goats and pigs kept in the stable for months, which they speedily outgrew when turned into the field. All these data speak in favor of the assumption that the contamination of the air in the dwellings of the poor is directly responsible for rachitis, as the poisons are inhaled and taken into the blood and wreak their damage predominantly on the parts through which the circulation is most intensive. The poisons may be further transmitted through the mother to the fetus and nursing child.

66. **Syphilitic Otitis Media.**—Lüders reports five cases of a primary syphilitic process in the tympanum or labyrinth wall. Severe deafness and signs of acute otitis media were not relieved by paracentesis, and a history of syphilis, two, five and six years before, cleared up the diagnosis. All the patients stated that the hearing had gradually declined as the signs of otitis developed. One patient had also nausea and vertigo, one facial paralysis on the affected side and in one the meatus was much swollen. One patient had fever, vertigo, vomiting and nystagmus and two of the others had also nystagmus toward the sound side. One patient was an infant with inherited syphilis. Under combined antisyphilis treatment the disturbances subsided, but the hearing on that side was permanently lost in the cases which went on to suppuration. In six other cases of non-specific acute otitis media in syphilitics the process healed promptly under the usual measures without impairment of hearing.

Medizinische Klinik, Berlin

January 26, IX, No. 4, pp. 123-160 and Supplement

67 *Asthma. (Behandlung des Asthma bronchiale.) E. Stadler.
68 *Tuberculosis Among the Well-to-Do. (Verbreitung der Tuberkulose namentlich in den wohlhabenden Klassen.) W. Kruse.
69 Emergency Tracheotomy. (Zur Geschichte der Vicq d'Azyrschen Operation.) J. Tandler. (Die dringliche Kriko- beziehungsweise Tracheotomie, mit bes. Berücksichtigung der Kropfkomplikationen.) E. Sehrt
70 Apparatus for Exercising the Back in Scoliosis. (Zur Uebungstherapie der Skoliose.) W. Becker.
71 Urinals for Bladder Fistulas and After Prostatectomy. (Kapseln für permanente Blasenfisteln und zur Nachbehandlung von Prostatektomierten.) F. Wossidlo.
72 Bacteriologic Diagnosis of Cholera. (Die bakteriologische Choleradiagnose auf Grund von Prüfungen neuerer Anreicherungs- und Differenzierungsmethoden.) W. Schürmann and S. A. Rosenblat.
73 Treatment of Paral[illegible] physikalische Therapie peripherer und cent[illegible] K. Weiss[illegible] D[illegible]
74 *Diabetes. (T[illegible] W. Wells

67. **Asthma.**—Stadler remarks that the patient is generally seen first in the midst of an acute attack and he needs prompt and effectual help. For this we can rely on epinephrin, he says, a subcutaneous injection of 0.5 c.c. of 1 per thousand solution, in the upper arm gives remarkable relief in from three to five minutes. The by-effects, palpitation, slight chill and tremor with slight rise in the blood-pressure pass off in a few moments and the patient soon drops asleep. He has never known it to fail in his experience, and only a few instances of failure are on record. Sometimes the attack recurs a few hours later; the injection can be repeated then without fear. There is no cumulative action. In chronic cases atropin is best given by subcutaneous injection of not over 0.001 gm. Atropin is a constituent in the proprietary asthma remedies on the market. He warns to beware of narcotics. Asthma is one of the most dangerous drug-addiction breeders. The nervous system of these patients is below par to start with, and they have little will power to resist the attraction of morphin. He regards asthma as one manifestation of the exudative diathesis. The tendency to exudative processes at various parts of the body is accompanied by an abnormal nervous excitability, and this must be borne in mind in the attempt to remove the cause. Dietetic measures are very important and the asthmatic should be treated in general like a neurasthenic. He adds that asthma is one of the most prolific fields of quackery, and that against this the best weapon is, not legislation nor enlightenment of the public, but the perfecting of the art of medicine in general and in practice by every physician.

68. **Tuberculosis Among the Well-To-Do.**—Kruse states that recent statistics from Bremen show that in every 10,000 inhabitants there are thirty-six deaths from tuberculosis among the poorer classes and only five among the well-to-do. Nägeli's discovery of traces of tuberculosis in nearly every one of 1,000 cadavers examined was made on the hospital material at Zurich. Kruse has been studying the subject among the comparatively well-to-do, applying the cutaneous tuberculin test first, and if this proved negative, subcutaneous injection. Of the sixty-two adults on his staff or students at his lectures, all mostly between 20 and 25 years old, fifty-two, that is, 84 per cent., had a positive reaction. In one of the negative cases the young woman was known to have had an apical tuberculous process twenty years before. This experience teaches that the well-to-do portion of the population are affected with tuberculosis far more extensively than has hitherto been supposed. The possibility of contamination of others in the vicinity of the tuberculous deserves further study.

74. **Diabetes.**—Weiland concludes his monograph by emphasizing that diabetics require supervision for years. One is frequently surprised at the aggravation of conditions when the patient has been left to himself for a long time. The diabetic is inclined to deceive himself in neglecting the strict dietetic regulations. His dislike of the restrictions imposed is one reason why diabetics are so liable to flock to quacks, as they claim to cure diabetes without dieting. In regard to life insurance, he advises great caution, erring, if at all, on the side of rejecting the diabetic candidate. He discusses further the importance of trauma in the causation of diabetes, stating that his own experience and the statements of the patients have banished all doubt as to the possible causal importance of trauma. A latent diabetes may be fanned into a flame by the accident, or diabetes may develop in a predisposed individual or the accident may aggravate the existing diabetes. When the interval is longer than from six to twelve months, he thinks a causal importance must be denied the trauma. He advises against marriage for diabetics on account of the hereditary nature of the affection, and adults with an inherited taint, although not themselves diabetics, should be warned of the dangers to posterity and the mishaps liable during pregnancy and the puerperium. The progressive course of diabetes during pregnancy and the tendency to coma after delivery, the high mortality and malformations of the fetus of diabetic mothers are so numerous that the advisability of early artificial delivery should be considered. At the same time, Bingel has lately reported a successful pregnancy in a diabetic. Weiland's experience warns further against attempting an operation on a diabetic. In his cases of gangrene the process continued unmodified in spite of all medical measures.

Münchener medizinische Wochenschrift

January 28, LX, No. 4, pp. 169-224

75 *Peptic Ulcer of Spastic Origin. (Das spasmogene Ulcus pepticum.) G. v. Bergmann.
76 Blood-Pressure After Exercise as Guide for Estimation of Labor Capacity. (Ueber Blutdruckmessung nach Körperarbeit und ihre Bedeutung für die Beurteilung der Arbeitsfähigkeit.) H. Stursberg and H. Schmidt.
77 *Rational Surgery of the Nerves. (Beiträge zu einer rationellen Nervenchirurgie.) A. Stoffel.
78 Moving Pictures of Pathologic Stomach Movements. (Bewegungsvorgänge am pathologischen Magen auf Grund röntgenkinematographischer Untersuchungen.) C. Bruegel.
79 Blood Findings in Acute Sulphuric Acid and Copper Sulphate Poisoning. V. Reichmann.
80 *Cure of Pregnancy Toxicosis with Injection of Ringer's Solution. (Schwangerschafts- Toxikodermien durch Ringersche Lösung geheilt.) E. Eichmann.
81 Improved Technic for Inoculation Tests. (Zur Frage des Tuberkulosenachweises durch beschleunigten Tierversuch.) P. Esch.
82 Lipoid Content of So-Called Appendix Carcinomas. R. Maresch.
83 Tuberculin and Immunity to Tuberculosis. Deycke and Much. Commenced in No. 3.

75. **Spastic Origin of Peptic Ulcer.**—The Journal has reviewed from time to time recent research on the antagonism between the sympathetic and the vagus nerves in respect to their response to atropin and pilocarpin. It has been found possible to reproduce artificially with drugs the clinical symptoms of abnormal excitability of the vagus and also to inhibit with atropin both the natural and the induced symptoms. Eppinger and Hess—who coined the term "vagotony" for this condition of abnormal excitability on the part of the vagus—noticed the frequent coincidence of this condition with gastric ulcer, and that the pain with a gastric ulcer is peculiarly intense in the "vagotonikers." They theorized to explain this, but Bergmann thinks their deductions are wrong, and offers a more plausible explanation, namely, that extra excitability on the part of the vagus leads to occasional spastic contraction of the organs innervated by it. The vessels in the contracted portion are, of course, squeezed tight, expelling the blood, and the region thus rendered ischemic and thus shut off from its nourishment loses its protection against the corroding action of the gastric juice. An erosion or an ulcer is liable to develop and to be maintained by repetition of the contracture. In his sixty cases of gastric ulcer, signs of abnormal excitability of the vegetative nervous system were unmistakable in fifty-eight of the patients. In a number, roentgenoscopy showed spasm of the stomach, the transient hour-glass shape.

The practical conclusion which he draws is, therefore, that treatment of gastric ulcer must include measures to reduce the vagotony, namely, a course of atropin. He even insists that therapeutics has no more striking effect on its record than the subsidence of gastric ulcer disturbances under atropin. It relieves the reflex spasm of the pylorus, and the quieting down of the stomach can be watched in the *x*-ray picture. He has had patients continue to suffer under morphin, but they were relieved the first day 0.0005 gm. atropin or twice this was given in a pill three times a day. The action is prompter by the subcutaneous route. He declares that morphin has a directly injurious action with gastric ulcer, increasing secretion and the tendency to spasmodic contraction, thus causing the food to be retained longer in the stomach, while atropin, to supplement the ordinary treatment of gastric ulcer, is the best of all measures. The atropin must be dosed according to the irritability of the vagus and it must be kept up a long time. The daily dose ranges between 0.001 and 0.004 gm. The aim should be to reduce both the secretory and motor functioning of the stomach to the minimum. An alkali and the use of well cooked vegetables may prove valuable adjuvants. Westphal obtained hemorrhagic erosions in the stomach and duodenum of rabbits treated with drugs (pilocarpin and physostigmin) to irritate the vagus. In one case a true peptic ulcer developed and perforated.

77. **Surgery of the Nerves.**--Stoffel reiterates that both nerves and muscles are made up of minute fibers which blend more and more to form larger and larger bodies, trunk nerves and big muscles, but the minute units can be followed and traced far upward. Transplantation of a nerve is irrational unless these fiber units are regarded and utilized. The special units for the special muscle must be sorted out and the graft sutured to them alone. He gives an illustrated description of the special technic he has found best suited for the purpose, and urges further research on the morphology, physiology and biology of the peripheral nerves, his work having shown numerous gaps in the text-books on this subject.

80. **Pregnancy Toxicosis Cured by Ringer's Solution.**—Three cases are reported in which the subjective disturbances, the pruritus, were arrested at once and the objective gradually subsided after an injection of 180 c.c. of Ringer's solution, repeated two days later, in the first case. In the second a single injection of 150 c.c. answered the purpose. In the third 160 c.c. were injected and 190 four days later.

Ringer's solution is a mixture of sodium chlorid 1.8 gm.; calcium chlorid 0.048 gm.; potassium chlorid 0.084 gm.; sodium bicarbonate 0.06 gm. and distilled water to 200 c.c.

Wiener klinische Wochenschrift, Vienna

January 30, XXVI, No. 5, pp. 161-200

84 *Protruding Floor of the Acetabulum. (Zur Aetiologie und Genese der Ottoschen Protrusion des Pfannenbodens.) C. Breus.
85 *Roentgenoscopy During Irrigation of the Colon. (Ueber direkte Irrigo-Radioskopie des Kolons.) G. Schwarz.
86 Dental Caries a Streptomycosis. E. Baumgartner.
87 Injury of Eye in Testing Electric Lamps. (Neue Gefahrenquelle für gewerbliche Augenverletzungen.) H. Pach.
88 Flushing the Large Intestine in Treatment of Stenosis. (Zur inneren Behandlung von Dickdarmstenosen.) A. Brosch.

84. **Irregularity in the Floor of the Acetabulum.**—Breus states that there are now thirteen cases on record of what he calls Otto's protrusion of the acetabulum floor. Nine of the patients were women and in six the trouble was bilateral. He declares that there is no evidence to date that tabes can be incriminated; the joint lesions of tabes assume a different type. It may occur in a tabetic, but merely as a coincidence, or tabetic changes may be superposed on the pure Otto type which is merely the result of defective repair of some old local inflammatory process.

85. **Irrigoradioscopy of the Colon.**—Schwarz illustrates the findings in five cases in which injection of a suspension of bismuth under direct roentgenoscopy instructively revealed stenosis high up in the colon.

Zentralblatt für Chirurgie, Leipsic

February 1, XL, No. 5, pp. 153-192

89 Fascia Graft for Ptosis of Eyelid. (Zur Ptosisoperation mit freier Fascientransplantation.) Aizner.
90 Total Laceration of the Urethra. (Zur Behandlung der totalen Harnröhrenzerreissungen.) A. Hofmann.
91 Circular Knife for the Prostate. (Ein Prostataringmesser für die suprapubische Prostatektomie.) E. Grunert.
92 *Rubber Gloves. (Bolus alba im Handschuh.) R. Burmeister.

92. **Rubber Gloves.**—Burmeister remarks that surgeons would not lose their temper over rubber gloves quite so often if they followed his practice of lubricating them with bolus alba. Just before putting on the gloves, he takes two tablespoonfuls of bolus alba in his palm and rubs it with a little water over both hands, so that they are covered with a thick paste. The gloves then slip on and off more readily, while they cling to the hand better and the paste has a soothing action on the skin and seems to protect the gloves against tearing.

Zentralblatt für Gynäkologie, Leipsic

February 1, XXXVII, No. 5, pp. 153-192

93 Roentgen versus Radium Therapy in Gynecology. (Die Strahlentherapie in der Gynäkologie: Röntgen- oder Radiumtherapie.) B. Krönig and Gauss.
94 Hypophysis Extract in Obstetrics. (Bedeutung der Hypophysenpräparate für die Hebosteotomie.) G. Linzenmeier. (Hypophysenextrakt und Spätgeburt.) L. Stolper. (Hat das Pituitrin einen nachteiligen Einfluss auf das Kind?) F. Spaeth

Gazzetta degli Ospedali e delle Cliniche, Milan

January 23, XXXIV, No. 10, pp. 97-104

95 Rarity of Genu Valgum Among Arabs. (Sulla rarita del ginocchio valgostatico presso gli arabi.) M. Tortora.

January 26, No. 11, pp. 105-120

96 *Leukemia and Pseudoleukemia. A. Ceconi.

January 28, No. 12, pp. 121-128

97 *Facial Paralysis. (Osservazioni cliniche sulle paralisi facciali.) P. Finizia.

January 30, No. 13, pp. 129-136

98 Successful Opening of the Chest on Both Sides for Bilateral Empyema in the Pleura. (Caso di empiema pleurico bilaterale guarito con doppia toracotomia.) L. Bozzotti.

96. **Leukemia and Pseudoleukemia.**—Ceconi describes a case of pseudoleukemia in a man of 60 which became transformed in the course of two years into typical lymphatic leukemia, sustaining the assumption of the identity of the two. Leube's leukanemia, on the other hand, is merely a symptom, but as such it may be the only sign for a time of true leukemia, as also of cancer of the bone-marrow and of severe infections and intoxications of many kinds.

97. **Facial Paralysis.**—In the case reported the seventh nerve was totally paralyzed, bilateral and crossed. This excluded the facial nerve as the source of the paralysis; at least it could not be a peripheral paralysis, and Finizia presents arguments to sustain the assumption that the seat of the lesion was in the cortex of the right hemisphere of the brain. The patient had a mitral defect, and the lesion causing the paralysis was probably some minute focus of softening from embolism.

Policlinico, Rome

January 12, XX, No. 2, pp. 41-76

99 *Occlusion of Large Vessel with Strip of Tendon Fiber. (Produzione di stenosi dei grossi vasi mediante bandellette libere aponeurotiche e tendinee.) F. Nassetti.
100 Syphilitic Meningitis Plus Hysteric Amaurosis. M. Zalla.

January 19, No. 3, pp. 77-112

101 *Strychnin in Retention of Urine in Paralytics. (La strichnina nella ritenzione urinaria dei paralitici.) A. Taddei.

January 26, No. 4, pp. 113-148

102 *Wounds Produced by Modern Projectiles. (Ferite prodotte dalle moderne armi da fuoco portatili da guerra alle varie distanze.) P. Imbriaco.
103 *Reflex Phenomena from Helminths. (Emidrosi destra e spasmi ritmici del piede dello stesso lato di origine riflessa per elmintiasi intestinale.) M. Condorelli.

January, Medical Section, No. 1, pp. 1-48

104 *Hemolytic Jaundice in the Tuberculous. (L'ittero emolitico della tubercolosi.) G. Jona.

99. **Occlusion of Large Vessels by Means of Strips of Fascia or Tendon Tissue.**—Nassetti has been experimenting with ligation of large vessels on animals and has found that strips of tough tissue answer the purpose admirably, much better than the metal bands which Halsted has been using (1912). The vessels thus ligated were the carotid, aorta and vena cava, in dogs, and the strip of tissue was taken from the fascia lata or Achilles tendon. He passed the strip around the vessel once or twice, watching the pulse beyond, and fastening the ends of the strip with a silk suture. The artery could thus be reduced to one-half or one-third its former lumen without apparent injury and without signs of thrombosis. There was no paresis or paralysis in nine of the ten dogs of his latest series of experiments. Four died from infection or perforation at the point where a stitch had been taken in the aorta, and one from the effects of complete obstruction of the aorta owing to the sticking together of its walls. This method of occlusion by means of a strip from the individual's own fascia lata seems destined to an important place in the treatment of aneurysm, Nassetti thinks. The wall of the aneurysm might be reenforced with a considerable flap from the fascia lata. He urges research in this line when aneurysm can be experimentally produced. The fascia strip method might also prove useful when it is desired to shut off the circulation from a region and the fear of an infarct deters one from applying a ligature direct. For example, the spread of a disease process in the lung might be arrested by inducing by this means a tendency to sclerosis which follows when the blood-supply to a region is impeded.

101. Strychnin in Retention of Urine in Paralysis.—Taddei refers to the retention accompanying advanced stages of progressive paralysis, and states that while strychnin by the mouth is unreliable, by subcutaneous injection it has a remarkable action in overcoming the paralysis of the bladder. He gave from four to twelve injections, each 0.02 c.c. of a 1 per thousand solution, commencing at the first sign of a tendency to retention of urine and suspending the drug as the tendency subsided, returning to it again on renewal of symptoms. He commenced this treatment in 1904 at the insane asylum in his charge, and summarizes here thirty-two cases in which the rapid and certain success of the injections was amply demonstrated. He adds that the strychnin seemed to have a supplementary beneficial action in warding off or hastening the healing of decubitus.

102. Wounds Produced by Modern Firearms.—This communication from the seat of war gives illustrations and comments on the character of the lesions made by modern firearms—much the same conclusions as were given recently in the Rome Letter, February 15, p. 534.

103. Reflex Nervous Phenomena From Presence of Tapeworm.—In the case reported there was a transient attack of pulsating pain in the temples and tonic contraction of the prevertebral muscles as the first sign of trouble in the man of 47. Three weeks later a second attack occurred, accompanied by profuse sweating on the right side alone, most profuse on the chest, and transient violent contracture of the foot, followed by a rapid rhythmic movement of the tip of the foot to and fro, similar to the motion of the foot in running a sewing machine. The pains, sweating and rhythmic spasm of the foot all lasted about two hours during which the mind was slightly confused. After a few days of repose on account of considerable prostration, the man returned to work but still complained of occasional slight dizziness. Seventy days afterward the spasmodic attack returned, identical in every respect with the first one, but lasting an hour. The pain in the temples came on suddenly each time and was extremely severe, and the face felt hot. The foot symptoms suggested the rhythmic chorea of hysterics but the entire absence of other signs of hysteria led by exclusion to the diagnosis of helminthiasis, and male fern caused the expulsion of a tapeworm, after which there were no further disturbances.

104. Hemolytic Jaundice in the Tuberculous.—Jona reports two cases supplementing three he has previously described and three published by French writers, in which without any signs of bile in the blood the patients presented the aspect of jaundice—the result of enormous destruction of red corpuscles. In two cases the blood-vessels seemed to be abnormally fragile but no autolysins or isolysins were discovered in the blood of the three patients whose clinical course was supervised. In Jona's five cases the inclusion of numerous red corpuscles in the large cells of the spleen and in the Kupfer cells in the liver was a striking feature of the necropsy findings Hemolytic jaundice may occur in the tuberculous as a chronic or intermittent condition or merely as a terminal phenomenon.

Brazil-Medico, Rio de Janeiro

January 1, XXVII, No. 1, pp. 1-10

105 *Progressive Degeneration of the Lenticular Nucleus; Two Cases. (Da degeneração lenticular progressiva ou syndrome de—Wilson—Kinnier.) R. Vaz.
106 Prostatitis B. P Leme.

105. Progressive Degeneration of the Lenticular Nucleus.—Vaz gives an illustrated description of the clinical course in two cases of typical and severe Wilson's disease. The clinical manifestations were exclusively motor; the cirrhosis of the liver found at necropsy was silent in regard to symptoms except for a slight tendency to jaundice and mild dyspepsia in one case. Cirrhosis of the liver is an integral part of the syndrome to which Wilson called attention as the result of progressive degeneration of the lenticular nucleus. In the acute form there is fever and the movements are not quite like those of the chronic form. In his twelve cases the disease lasted four, six and fourteen months in the group of three acute cases; the cachexia was rapid and everything pointed to a severe toxi-infection. In the chronic form—to which the two cases reported by Vaz belong—the disturbances are almost exclusively motor and the course is protracted. Every muscle in the body except the external ocular seemed to participate in the spasmodic contracture in his first case, but the contractions passed over the body in a regular sequence, commencing in the brow and ending in the ankles and toes. Every change of position is followed by the spastic contractures, and when the patient is seated the trunk sways to and fro. The patients were men of 21 and 25. The affection commenced in the first case six years before the fatal termination. The young man had been previously healthy except for measles, malaria and small-pox. The first signs of trouble were a sensation of weight in the legs, most pronounced on the left side, rendering it difficult and very fatiguing to walk. Sudden contracture of the muscles of the legs occurred occasionally, so that he would fall, but there were no sensory disturbances and the genito-urinary sphere was intact. The contractures in the legs were predominantly in extension and abduction at first, but gradually included flexion and intense tremor. In bed the patient lay on his stomach mostly to avoid bringing on the contractures. There was no microscopic examination of the brain.

Semana Medica, Buenos Aires

December 26, XIX, No. 52, pp. 1341-1400

107 *Local Application of Salicylic Acid to the Chest in Treatment of Pneumonia. (Nuevo tratamiento de la neumonia.) P. B. Aquino.
108 Protoplasm of the Cell. (Organizacion de la celdilla. El protoplasma celular y las substancias albuminoides.) V. Delfino.
109 Eye Symptoms from Disease of the Nose and Accessory Sinuses. (Sintomas oculares producidos por las afecciones de la nariz y de los senos vecinos.) V. Gomez.
110 Tuberculosis in the Navy. (La tuberculosis en la marina de guerra.) A. Fernandez-Caro.

January 2, XX, No. 1, pp. 1-60

111 Serotherapy in Prophylaxis of Tetanus. L. Bard.
112 Argon. V. Delfino.
113 Distribution of Colors in Animal Kingdom. (La coloracion de los animales y la distribucion de los colores en el reino animal.) V. Delfino.
114 Artificial Creation of Life. V. Delfino.

107. Local Application of the Salicylates in Pneumonia.—Aquino extols the efficacy of local application to the chest of a mixture of 10 gm. of salicylic acid in 90 per cent. alcohol with 10 gm. of castor oil. The skin is first washed with ether and then one or two spoonfuls of the solution are applied on a square of gauze and the whole covered with cotton and rubber tissue, held in place with a bandage. This dressing is renewed three or four times during the twenty-four hours. Methyl salicylate might prove equally effectual but its penetrating odor is too great a drawback. The salicylic acid is refound in the urine and one of his patients complained of ear disturbances, confirming the thorough absorption of the drug. By this mode of administration the injurious influence on the digestive tract is avoided. He supplements it always with heart tonics, enemas, and an alkali internally to prevent irritation of the kidneys as the drug is eliminated through them. In the three cases reported in detail he applied only the salicylate locally, to test its efficiency alone. The symptoms were alleviated almost at once, and the patients felt so well that he could confidently predict defervescence the next day, which never failed him by the third day. He prefers for the heart tonic an injection of 0.01 or 0.02 gm. of camphorated oil each day to sustain the myocardium.

Medicina Contemporanea, Lisbon

January 26, XXXI, No. 4, pp. 25-32

115 Dental Hygiene in the School. (Hygiene bucco-dentaria nas escolas.) S. Falcão and Q. Graça.

Revista de Medicina y Cirugia, Havana

February 10, XVII, No. 3, pp. 53-80

116. Successful Serotherapy in Another Case of Tetanus; Incubation Fifteen Days. (Un caso mas de tetanos traumatico curado por la seroterapia intensiva.) L. Huguet.
117 Ocular Disturbances with Brain Tumors. S. E. Stincer and Gonzalez.

The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees
Vol. LX, No. 11 CHICAGO, ILLINOIS MARCH 15, 1913

REVIEW OF FIVE HUNDRED AND THIRTY-FOUR OPERATIONS ON THE MAMMARY GLAND *

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There are two important epochs in the surgical history of mammary carcinoma. The modern operation, based on the knowledge of the lymph-vascular drainage of the breast, has raised the percentage of ultimate cures, as the introduction of antiseptics and asepsis lowered its primary mortality. This is the more remarkable in view of the extensive operation now performed, so that the reduction of the primary mortality of 25 per cent. in preantiseptic days to less than 1 per cent. with modern technic is approximately parallel to the reduction in local recurrences from 65.6 per cent. to 6.5 per cent. Elaboration of Halsted's principles has carried the operative incision further and further away from the primary focus of disease until the limits of surgery must surely have been reached, with results that are highly disappointing save when compared with results of past decades. Why must the ultimate cancer be sought for in remote tissues of cervical, thoracic and abdominal areas, and usually in vain, when it is the consensus of medical opinion that cancer is primarily a local disease, often, perhaps always, preceded by a precancerous state of the tissues, and invariably amenable as such to surgical treatment? To whom can we turn for explanation of the inoperability of 25 per cent. of the cases in patients presenting themselves to the Mayo clinic, of the inoperability of 32 per cent. of cases of superficial malignancy seen by the surgeons of Pennsylvania in 1911, or of the presence of extensive ulceration and metastasis in thirty-one of the last 200 cases at the German Hospital clinic? Is it the memory of an ancient teaching that prompts physicians to advise the patients to accept operative treatment as a last resort in mammary carcinoma, when this lapse of time has removed its only chance of cure? Or has surgical practice in accepting advanced cases for operation cast an opprobrium on its methods, established a wide-spread belief in their futility and deepened the conviction that operation is to be accepted only when this very skepticism has rendered it useless? Is it the ignorance of the laity in regard to the serious nature of lumps, whether painful or not? Or is it the apathy of the practitioner, or overconfidence in his ability to differentiate the benign from the malignant in its early undifferentiable stages? No doubt a number of factors are potent in the production of this evil, while the fact remains that surgeons see large numbers of inoperable cases of cancer of both superficial and deep origin, the great majority of which could have been cured if diagnosed early and treated properly.

Since 1898, 534 patients have been operated on in the German Hospital clinic for tumor of the breast, as follows: carcinoma, 370; fibro-epithelial, 123; chronic mastitis, 24; sarcoma, 11; tuberculosis, 6. An analysis of the last 200 cases of carcinoma and 100 cases of fibro-epithelial tumors of which the records are complete, with the end-results of all cases whic[illegible] able to trace, forms the material from whi[illegible]stics to follow are computed.

INCIDENCE OF CANCER AND THE PRECA[illegible]US TISSUE STATE

The statistics of all countries show a steady increase in the incidence of cancer. In New Zealand, which has the lowest death-rate from cancer, there is a steady increase, proportionate, as shown by Hislop and Fenwick,[1] to the increase of other countries. The death-rate in the United States had risen from 47.9 per hundred thousand in 1890 to 73 per hundred thousand in 1907, almost the same average increase during the same period as occurred in eight European countries. The international classification of the cause of death attributes 8.5 of the deaths from cancer to mammary involvement. Estimated from this, 5,882 of the persons dying from cancer in the United States during the year 1907 had primary involvement of the breast.

Coincident with this increase in the incidence of cancer, there has been a steady increase in our knowledge of the predisposing states of the tissues to malignant degeneration, and in a measure of their underlying cause. Keen's demonstration, twenty years ago, of the degeneration of pigmented moles into carcinoma, foreshadowed the general recognition of certain connective-tissue changes predisposing to malignancy. Victor Bonney believes that cancer cannot originate from epithelium lying on healthy connective tissue. He states that destruction of the elastic tissue fibers of the basement membrane is the initial step toward malignancy, a result produced in the majority of cases of cancer of the breast by chronic cystic mastitis, especially of the proliferative type. As causative of this type of mastitis, Handley[2] mentions "(*a*) infection via the ducts; (*b*) toxic products of metabolism; (*c*) a morbid deviation in the physiologic process of involution and evolution which normally occurs with the sexual crises, puberty, menstruation, lactation, pregnancy and the menopause." Beadles found this condition in the non-cancerous portions of a hundred specimens of carcinomatous breast, and shares the opinion of E. T. Paul and Victor Bonney[3] that it is in constant association with early mammary carcinoma. Its absence in the late stages they ascribe to overgrowth of the cancer elements. From clinical evidence, Handley estimates the percentage of antecedent mastitis as 30 per cent., comparable with the 39 per cent. of superficial cancers, in the report of the Pennsylvania Cancer Commission, giving a history of chronic irritative conditions antedating the development of malignancy. MacCarty,[4] Speese,[5] Bloodgood, Judd[6] and others associate chronic mastitis with carcinoma in from 25 to 75 per cent. of cases.

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* Read before the College of Physicians of Philadelphia, Dec. 3, 1912.

[1] Hislop and Fenwick: Ann. Surg., 1907.
[2] Handley. Practitioner, London, 1910, lxxxiv, 463; Diseases of Breast, London, 1909.
[3] Greenough, [illegible] Ann. Surg., 1907.

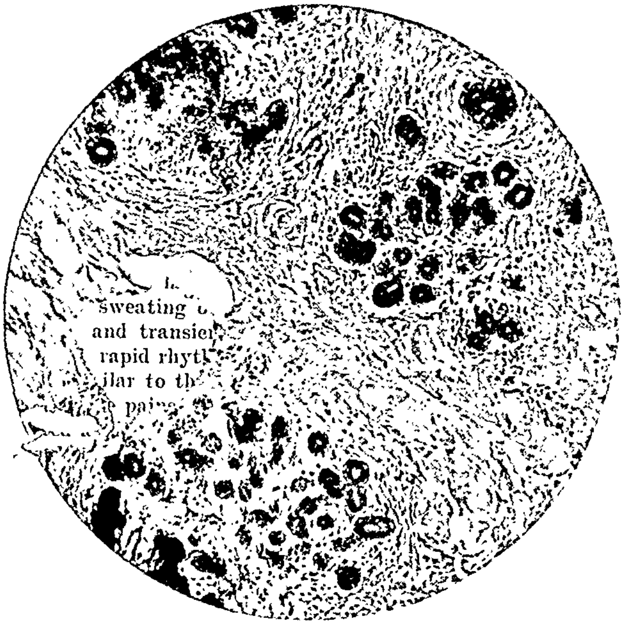

Fig. 1.—Fibro-adenoma of the breast.

Benign tumors are said to constitute 11 per cent. of all breast tumors, of which 7 per cent. are of the fibro-epithelial type. This estimation is perhaps true when based on hospital statistics, but benignancy is in much greater proportion in early stages. According to Judd, from 30 to 35 per cent. of benign tumors of the breast suffer malignant degeneration. In one of our cases a small tumor was excised from the left breast and diagnosed "fibro-adenoma" microscopically. Figure 1 shows the appearance of the primary growth. The patient returned in six months with extensive carcinoma. Figure 2 shows carcinoma in the scar from the original operation, while this case illustrates a clinical and pathologic mistake, it seems to emphasize the important fact that a growth may appear clinically and pathologically benign when already in a small area malignant transformation has taken place.

The influence of trauma, whether of transient nature or long-continued irritation, is much disputed. Of 115 authors writing in the years 1901 to 1909 inclusive, thirty did not assign trauma as a cause of cancer. Phelps states that only 9 per cent. of authors since the middle of the last century believed that transient injury might be the cause of malignant change. In 13 per cent. of our cases a definite history of injury, usually transient in nature, was given.

In one instance bleeding from the nipple, said to be of traumatic origin, recurred at irregular intervals for one year before the clinical evidence of malignancy appeared. Williams states that 25 per cent. of 137 cases gave a history of trauma, and that in one in one thousand cases the cancer immediately followed the receipt of the trauma. With increased knowledge of precancerous tissue states, the ascribed influence of bacterial and traumatic inflammation has a more rational basis. Nor can the frequent occurrence of the disease in the absence of such influence render it equivocal, for in the light of present knowledge, we must consider trauma, with other causes of inflammation, as a factor predisposing to cancer through the destruction of the normal fibro-epithelial relationship.

SYMPTOMS AND DIAGNOSIS

Thirty-seven of the relatives of our patients with malignant growths, and twenty-two of those with benign growths died of cancer, 13 per cent. of each type affecting the breast. Various authors state that in from 5 to 30 per cent. of cases of cancer in which there is operation, a family history is given of the disease, usually affecting the breast. The occurrence of mammary carcinoma in four or more members of a family, a history given in two of our cases, would indicate hereditary influence, but this must be considered a developmental predisposition.

As regards sex, the number of males varies from 6 per cent. (Rodman[7]) to 2.82 per cent. (Billroth[8]); 1.5 per cent. of the malignant and 2 per cent. of the benign cases of this series occurred in males. This low percentage is in keeping with the general rule that malignancy rarely affects vestigial structures, of which nature the male breast is to be considered. It also lends weight to the influence of changes incident to function in the female breast in the development of precancerous tissue states. Fibro-epithelial tumors occur at all ages, while no authentic cases of cancer have been observed before puberty. The cases so reported have been, as Billroth believed the case of Birkett in an 8-year-old girl to have been, sarcomatous in nature. Carmichael and Ever-

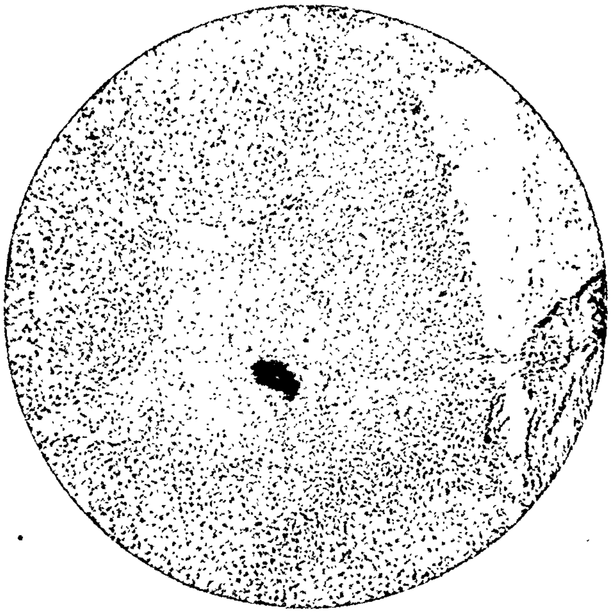

Fig. 2.—Carcinomatous recurrence in scar.

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[4] MacCarty: Tr. South. Surg. and Gynec. Assn., 1910.
[5] Speese: Ann. Surg., 1910, li, 212.
[6] Judd: New York Med. Jour., April 27, 1912.
[7] Rodman: Diseases of the Breast, Philadelphia, 1908.
[8] Billroth: Cyclop. Obst. and Gynec., ix.

hard Home reported bilateral carcinoma in patients 12 and 15 years of age. The age incidence in our cases is shown in Table 1. The average age in cancer cases was 49.6 years, and in fibro-epithelioma, 34.5 years.

TABLE 1.—AGE INCIDENCE IN CASES OF CANCER AND FIBRO-EPITHELIOMA AT THE GERMAN HOSPITAL CLINIC

Cancer: Ages	No. of Cases	Per Cent.	Fibro-Epithelial Tumors: Ages	No. of Cases	Per Cent.
20 to 30	5	2.5	10 to 20	6	6
30 to 40	32	16.0	20 to 30	25	25
40 to 50	65	32.5	30 to 40	32	32
50 to 60	65	32.5	40 to 50	25	25
60 to 70	19	9.5	50 to 60	6	6
70 to 80	14	7.0			

Cancer	Years	Fibro-Epithelial Tumors	Years
Youngest female	22	Youngest female	14
Youngest male	25	Youngest male	19
Oldest female	76	Oldest female	61
Oldest male	78	Oldest male	23

MENOPAUSE

Cancer	No.	Per Cent.	Fibro-Epithelial Tumors	No.	Per Cent.
Before	95	47.5	Before	91	91
After	75	36.5	After	7	7
Males	3	1.5	Males	2	2
No record	29	14.5			

MARITAL

Cancer	No.	Per Cent.	Fibro-Epithelial Tumors	No.	Per Cent.
Single	34	17.0	Single	49	49
Married	163	81.5	Married	49	49
Males	3	1.5	Males	2	2

PARITY

Cancer	No.	Per Cent.	Fibro-Epithelial Tumors	No.	Per Cent.
Parous	110	55	Parous	24	24
Nulliparous	90	45	Nulliparous	73	76

DIAGNOSIS

When a positive diagnosis of mammary carcinoma can be made, the hope of operative cure is often in vain, for the classical signs are usually unmistakable evidence of extensive metastasis. Mistakes in the clinical diagnosis in advanced cases are constantly made, however, especially in young subjects, as Hort[9] has shown. In a series of 300 cases occurring before the twenty-fifth year of life, Hort states that 128 were not diagnosed clinically, and further, that 582 of 3,532 cases at all ages were sent to the London hospitals with wrong diagnoses. In the early malignant changes of primary benign breast tumors, and in carcinoma arising *de novo*, it is as impossible to diagnose the condition as in the early analogous changes in the base of a chronic gastric ulcer. The reproach to him who fails to recognize obvious cancer is no greater than that of the physician who waits for obvious signs. A small minority of cases progress insidiously to extensive dissemination in the absence of symptoms. One of our patients was sent to the hospital on account of severe upper abdominal pain. Examination showed extensive involvement of the liver, metastatic from a small nodule in the breast (right) of which the patient had been entirely unaware. Two patients first noticed nodules in the axilla and had never suspected any trouble with the breast. In the great majority of cases the disease runs a symptomless course in its early stages, and the first suggestion of trouble comes with the accidental discovery of a "lump" in the breast. I believe that immediate radical operation at this time would give a much larger percentage of cures.

The initial symptoms in this series were as given in Table 2. These statistics refute the assertion of Billroth[8] that the initial symptom of mammary cancer is "lancinating pain which sometimes precedes the palpable induration by months." The disease in one of the cases in this series continued to extensive ulceration in the entire absence of pain. This symptom is common, however, in the late stages. In 65 per cent. of the malignant cases and 25 per cent. of the fibro-epithelial type the patients suffered pain from several months to several years after the discovery of the tumor. The pain has been described as slight, moderately severe or excessive, of a sticking, drawing, aching and burning character, knife-like and shooting into the arm, axilla, neck, abdomen or chest and in several instances was complained of as affecting only the axilla and abdomen. Trauma, infectious diseases, the menstrual periods and damp weather were given as influential in its production. As a symptom in the late stages, pain may be general, affecting especially the extremities and due either to toxemia, wide-spread metastasis, or both. In early malignancy of the breast, pain must be considered a rare symptom. Occurring late in the disease, it is the language of reproach to the patient for concealing her malady, to the physician for ill advice, or to the surgeon for delay in operating.

TABLE 2.—INITIAL SYMPTOMS IN CASES OF CANCER AND FIBRO-EPITHELIOMA AT THE GERMAN HOSPITAL CLINIC

Cancer: Symptoms	No. of Cases	Per Cent.
Lump	156	78.0
Pain	18	9.0
Eczema of nipple	3	1.5
Bleeding from nipple	2	1.0
Ulcer of nipple	3	1.5
Soreness of nipple	3	1.5
Retraction nipple	2	1.0
Serous discharge from nipple	1	0.5
Increase in size of breast	2	1.0
Lump in axilla	2	1.0
Stinging sensation	2	1.0
Tender axilla	1	.05
Dimpling of skin	2	1.0
Sinus	1	0.5
Pigmented mole	1	0.5
Pain in upper right abdomen	1	0.5

Fibro-Epithelial Tumors: Symptoms	No. of Cases	Per Cent.
Lump (multiple, 5; bilateral, 3)	86	86
Pain (spontaneous, 7; at menstrual periods, 1; after trauma, 2)	10	10
Aching	1	1
Burning	1	1
Tender at the menstrual periods	2	2

PHYSICAL SIGNS

The opportune time for surgery in mammary carcinoma is in the presence of a symptomless, freely movable mass. That patients are rarely seen in this stage of the disease is indicated by the tabulation of physical signs in our cases (Table 3).

TABLE 3.—PHYSICAL SIGNS IN CASES OF CANCER AND FIBRO-EPITHELIOMA AT THE GERMAN HOSPITAL CLINIC

PHYSICAL SIGNS

Cancer		Fibro-Epithelial Tumors	
Right side	94	Right side	51
Left side	95	Left side	46
Bilateral	11	Bilateral	3

In eleven of the benign cases there had been previous operations on the other breast, in four instances for carcinoma.

MOBILITY (ON CHEST WALL)

Cancer		Fibro-Epithelial Tumors	
Movable	157	Movable	99
Fixed	43	Fixed	1

SKIN INVOLVEMENT

Cancer		Fibro-Epithelial Tumors	
Skin involved	141	Skin involved	3
Skin not involved	59	Skin not involved	97

RETRACTION OF THE NIPPLE

Cancer		Fibro-Epithelial Tumors	
Retraction	107	Retrac. (1 congenital)	5
Not retracted	93	No retraction	95

DISCHARGE FROM NIPPLE

Cancer		Fibro-Epithelial Tumors	
Discharge	6	Discharge	1
No discharge	194	No discharge	99

ULCERATION

Cancer		Fibro-Epithelial Tumors	
Ulceration	31	Ulceration	1
No ulceration	169	No ulceration	99

One showing ulceration, bilateral. Both sides involved.

INVOLVEMENT OF THE AXILLARY LYMPH-NODES

Cancer		Fibro-Epithelial Tumors	
Palpable	74	Palpable	9
Non-palpable	126	Non-palpable	91

Thirteen of the seventy-four pa

The nine palpable cases proved

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[9] Hort: Brit. Med. Jour., 1909, ii, 966.

In no case of this series were the lymph-nodes of the opposite axilla or of the supraclavicular spaces palpably enlarged. Without considering general symptoms at length, we would draw attention to the frequent occurrence of a gain in weight of women with cancer of the breast, incidental to metabolic changes with the menopause.

LOCATION

Fibro-epithelial tumors are said to involve the sternal half of the breast most frequently. In this series, as indicated by Figures 3 and 4 (diagram) both malignant and benign types of tumor were most frequently found in the upper and outer portions of the breast.

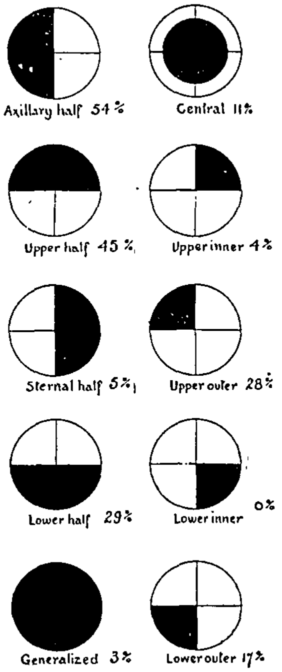

Fig. 3.—Diagram to illustrate areas involved in fibro-epithelial tumors of the breast. Percentages estimated from cases of 100 consecutive patients operated on in the German Hospital.

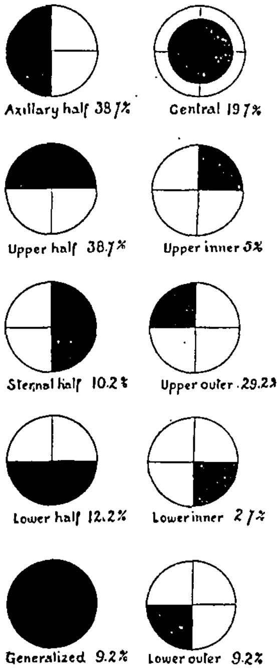

Fig. 4.—Diagram to illustrate areas involved in carcinoma of the breast. Percentage estimated from cases of 200 consecutive patients operated on in the German Hospital.

METASTASIS

Palpably enlarged axillary or supraclavicular lymph-nodes in the presence of a mammary growth do not necessarily mean carcinomatous involvement. In both chronic cystic mastitis and cancer, these nodes undergo certain changes affecting especially their germinal centers, and leading to hypertrophy, which has been styled the pre-cancerous adenopathy. Palpable axillary nodes were noted in nine of our benign cases and proved free of malignant change by microscopic examination. Finsterer found the same condition seven times in sixty-four cases of benign neoplasms.

The microscope proved the absence of metastasis in 6.5 per cent. of the 37 per cent. of malignant cases in which axillary enlargement was found by palpation, although in 62 per cent. of the cases metastasis to these nodes was found microscopically. Bull stated that 65 per cent. of cases when seen by the surgeon have palpable axillary lymph-nodes. Halsted[10] reported two cases of mammary carcinoma in which the axillary enlargement in one instance preceded the development of, and in the other progressed in the entire absence of any demonstrable mammary neoplasm. The two similar cases in this series had definite growths in the breast when the axillary masses were discovered, although the patients were unaware of their presence.

Looking with Halsted on metastasis as "the centrifugal spreading of a growth in direct continuity with the primary focus," the axillary enlargement in the latter type of Halsted's cases must be proved separate from a small primary focus in the axillary extension of breast tissue, called by Stiles "the axillary tail."

In a number of cases the neoplasm involved the upper inner quadrant of the breast; and I believe that the entire freedom of lower cervical lymphatic involvement in this series would not have been noted if the lymph channel, described by Poirier and Cuneo, were effective in draining this area. Nor does the freedom of attachment of the tumor to the pectoral fascia indicate non-involvement, for not only is this fascia involved before adhesion occurs, as Heidenhain showed in 1889, but also both muscles and the intermuscular lymphatics as well, though this is more rare. The same is no doubt true of the digitations of the serratus magnus muscle arising from the fifth and sixth ribs, in involvement of the lower outer quadrant, which overlies them. Henderson[11] failed to show this relationship, and there are no other studies available to indicate such involvement, yet Handley agrees that in cancer of the lower axillary quadrant these digitations should be removed. We removed a metastatic nodule from the tissues over the inferior angle of the scapula on the diseased side (Fig. 5). It was probably metastatic along lymphatics in the fascia covering the latissimus dorsi muscle, from the primary focus in the upper outer quadrant of the breast.

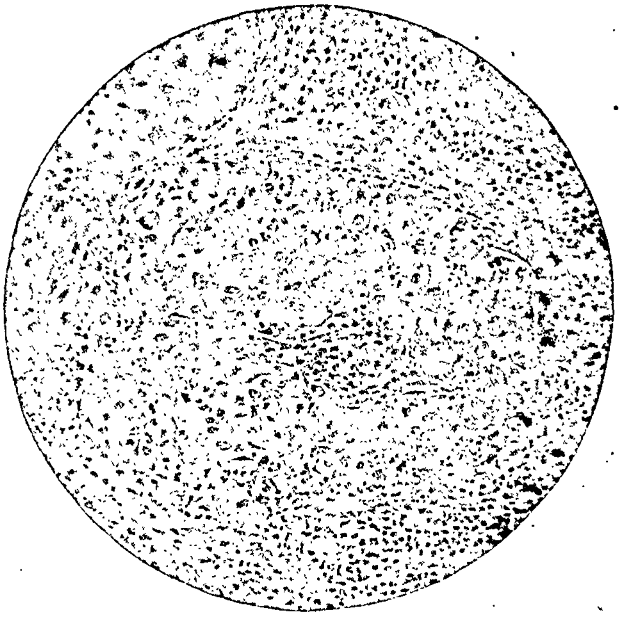

Fig. 5.—Metastatic carcinoma nodule from back.

Liver involvement and the frequent occurrence of cancer deposits in the humerus and thoracic cavity are the result of lymphatic permeation. Blood vascular embolic infection, the possibility of which is sometimes denied, probably explains distant metastases. Metastatic carcinoma to the breast is exceedingly rare, except from its fellow. The same is true of primary bilateral mammary carcinoma.

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[10] Halsted: Bull. Johns Hopkins Hosp., 1894; Ann. Surg., 1907.

[11] Henderson: Brit. Med. Jour., 1909, ii.

LATE RECURRENCES

We have noted apparent recurrence twenty years after removal of a cancerous breast. In one case of this series the left breast was removed six years before signs of involvement of the right breast appeared. In another, carcinoma appeared at the site of a vaccination scar three years after amputation of the breast. We resected a malignant jejunum and associated involved lymph-nodes (Fig. 6) in one of the cases of this series, three months before the discovery of a breast tumor. The patient was admitted to the German Hospital in February, 1907, with symptoms of pyloric obstruction, from which she had suffered since September, 1906. At operation an annular carcinoma was found, involving 2½ inches of the jejunum, and situated 8 inches distal from the duodenojejunal flexure. The mesenteric lymph-nodes draining this area were palpably enlarged. The diseased portion of the jejunum was resected and an end-to-end anastomosis made, but insufficient blood-supply necessitated resection of the primary anastomosis. A lateral anastomosis with posterior gastrojejunostomy to its distal side was then performed with satisfactory results. The enlarged lymph-nodes in the immediate area of the resection were removed. The patient recovered promptly, but returned to the clinic in April, 1907, complaining of sharp pain around the nipple of the left breast. This pain came on suddenly five weeks before admission and was associated with a rapidly growing lump in the upper quadrant of the breast. A simple amputation of the breast was performed. The specimen proved to be an adenocarcinoma. The patient writes (Aug. 15, 1912) that she enjoys perfect health.

From another patient we removed a carcinomatous uterus seven years before the radical operation for similar trouble with the breast was performed, but of this case we have no word. Matas has reported local recurrence twenty-four years after excision of the breast. Of thirty-five cases of late recurrence, Rotter found six in the other breast. Most of the so-called late recurrences are new processes without relationship to the previous trouble.

Roentgen irradiation has no place in the treatment of operable carcinoma of the breast. Preoperative application of the rays to remove outlying metastases before operative removal of the primary focus is as useless as local treatment of vesical tuberculosis in the presence of primary renal involvement. As a prophylactic measure against postoperative recurrence, or in cases of local recurrence which on account of the position and extent of the growth or the debilitated state of the patient preclude further operative interference, and in inoperable cases of cancer of the breast, the *x*-ray is the only therapeutic measure of value. Boggs' report[12] of five apparent cures in twenty inoperable cases, with improvement in the remaining cases, lends encouragement to patients with cancer involvement beyond surgical relief; to state the value of Roentgen irradiation in these conditions, in terms of finality, is impossible. Dr. G. E. Pfahler and other eminent roentgenologists recommend the treatment under the circumstances above named, and for this reason patients in the immediate postoperative period, with local recurrence impossible of removal, or with inoperable mammary carcinoma, should have the benefit of their wide experience.

PROGNOSIS

In the 534 cases of carcinoma and fibro-epithelial tumors in which operations were performed in the German Hospital since 1898, there were three deaths. Endocarditis developed after excision of a small "fibro-adenoma"; the other patients died of uremia and pneumonia following the radical operation for carcinoma.

With the radical operation the average primary mortality is approximately 1 per cent. As concerns the possibility of cure in cancer of the breast, the prognosis depends on those factors, including length of time the disease has existed, the age of the patient, type of tumor, etc., which contribute to dissemination of the disease, and from the technical point of view the ability to remove without cancer implantation, the glandular, lymphatic, fascial and muscular tissues involved in the malignant process. The average length of time the disease had existed in this series was thirty months. In the cases giving a family history of cancer 22.9 months had elapsed between the initial symptom and surgical consultation. In the cases in which the patients were well three or more years after radical treatment, sixteen months had elapsed on the average before operation. Freedom from recurrence was obtained equally in cases of long, and those of short duration at the Massachusetts General Hospital; Greenough's tables indicate that bilateral involvement, involved axillary and lower c

cal nodes, ulceration and the tumor

skin and chest wall wi of

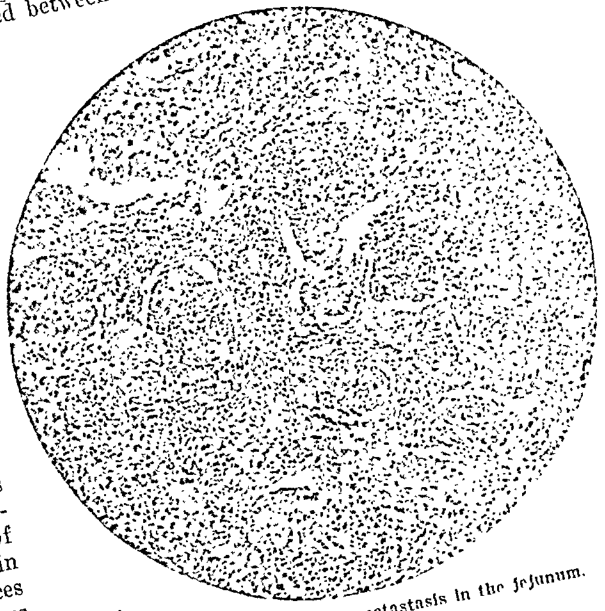

Fig. 6.—Adenocarcinoma metastasis in the jejunum.

TABLE 4.—GREENOUGH'S STUDIES ON THE POSSIBILITY OF CURE IN CANCER OF THE BREAST

	No. of Cases	Per Cent. Successful
Tumor adherent to the skin	262	16.0
Skin not involved	71	32.0
Tumors adherent to chest wall	45	11.0
Movable on chest wall	194	21.0
Axillary glands palpable	236	12.0
Axillary glands not palpable	117	19.0
Bilateral involvement	6	*
Ulceration present	60	6.5
Non-ulcerative	316	21.0
Medullary cancer	...	16.0
Scirrhus	...	23.0
Adenocarcinoma	...	47.5

* All fatal.

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12. Boggs: Am. Quart. Roentgenology, April, 1911.

and in a young subject, offer the most unfavorable prognosis. Of our patients well after three or more years, only 12 per cent. had retraction of the nipple, and 18 per cent. attachment of the tumor to the skin, but in no instance was the tumor attached to the pectoral fascia. Table 4 is reproduced from Greenough's studies. In 376 cases there was recovery and good health after three years in sixty-four, and death after three years from other diseases in seven, giving a total of seventy-one successful operations, or 18.9 per cent. Primary mortality of 416 cases was 3.6 per cent.

Of forty patients with enlarged supraclavicular glands, only two survived; in these two, 52 per cent. of the glands free of cancer (microscopically) remained free of local recurrence. Forty-one patients in 290 cases of recurrent carcinoma lived over three years after operation, and 13 per cent. of these never showed local recurrence. In 1907 Halsted reported 42 per cent. of 210 patients cured after the three-year limit.

In Halsted's early cases two in three patients were cured by the radical operation, while in those with metastases to the axillary nodes, the late cases, three in four patients died of early recurrence. He reports 7 per cent. of cures in forty-four operations with dissection of the supraclavicular space. Of the fifty-nine patients dying of early recurrence in our series, 90.9 per cent. had palpable axillary involvement. Of sixteen living after the three-year limit, 25 per cent. had palpable lymph-nodes in the axilla. The end-results in 119 of our cases are as follows: Of the patients with fibro-epithelial tumors, forty-four have been traced, and of these forty-one have remained well for an average period of six years. Two patients have had operations for similar tumors in the opposite breast, and one case diagnosed as fibro-adenoma both clinically and microscopically had early malignant degeneration of the breast (Figs. 1 and 2) and died of recurrence after radical operation. Sixteen, or 21.3 per cent. of seventy-five cases of carcinoma have passed the three-year limit and are free of recurrence on an average of seven years. Thirty-seven died of recurrence, and four of causes other than cancer. Six others have recurrence at the present time; while the remaining patients are apparently well, but sufficient time has not elapsed to make this certain.

The statistics here presented, although they are meager, serve to indicate in a general way the present status of mammary carcinoma in regard to the prognosis of operative treatment. Approximately one patient in five is permanently relieved of the disease by the radical operation, though it must be confessed that the inability to secure reliable data makes even this percentage questionable. This percentage would probably be materially lessened if the patients with cases pronounced inoperable, whose names do not appear on hospital records, were included in the statistics. As mentioned above, these results are highly disappointing unless compared with the results of past decades. When popular opinion demands immediate operation on the discovery of a lump in the breast; when physicians are taught to think of breast tumors in terms of operability, and when misguided humanitarianism no longer prompts the surgeon to attempt injudicious operations, the present lack of faith in the surgery of this disease will give way to a healthy optimism.

The work on this paper, going over the hospital records, compiling statistics and writing to patients, was done by Dr. Leon Herman, formerly house surgeon to the German Hospital, to whom I wish to acknowledge my indebtedness.

SKIAGRAPHY OF THE SEMINAL DUCTS

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CHICAGO

Through an incision in the vas deferens just above the testicle (vasotomy), a solution of collargol or other metallic compound can be injected into vas and vesicle, and skiagrams made of these. Such pictures amplify our limited knowledge of the physiology and pathology of the vas deferens and seminal vesicle, and of the genital functions of the male.

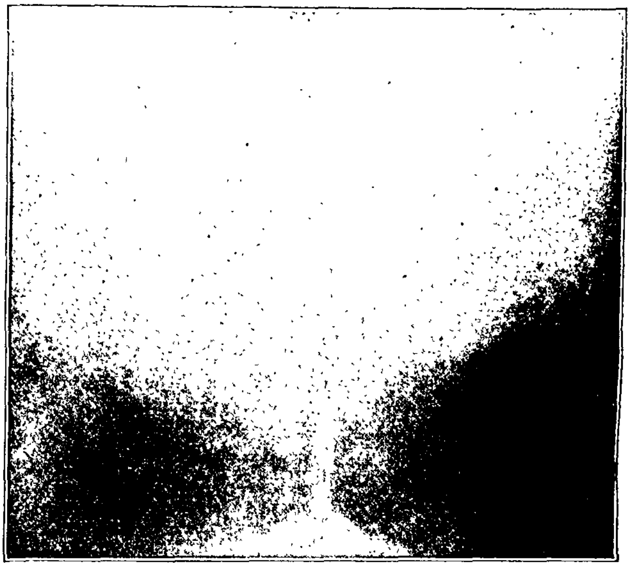

Fig. 1.—Tortuous vas deferens, seminal vesicle, deflected ejaculatory duct. Injected through vasotomy with 15 per cent. collargol solution for chronic vesiculitis. Skiagram by Dr. Van Horn, St. Luke's Hospital, Chicago.

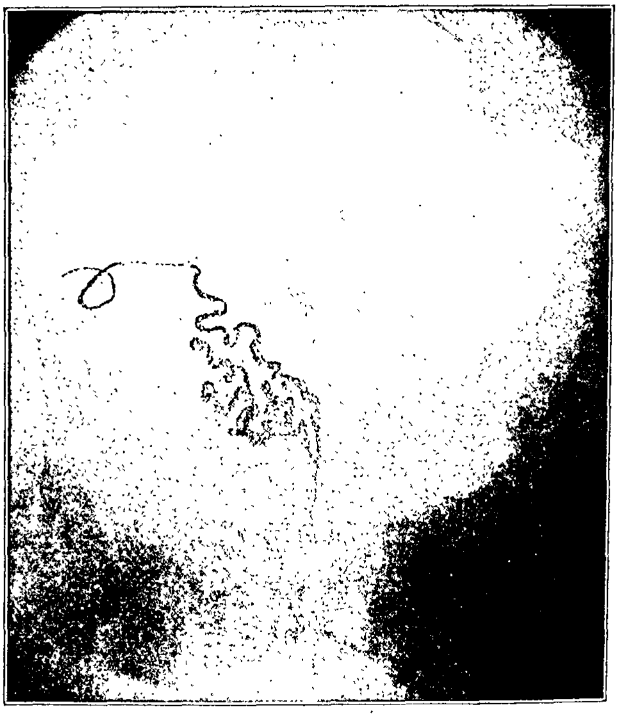

Fig. 2.—Print of a larger area from the same negative, retouched to make the shadow more clear.

The strength of the collargol should not exceed from 10 to 15 per cent.; the quantity injected at one sitting should in general be limited to 4 or 5 c.c.; injection should immediately cease if pain in groin or rectum occurs, since such pain shows irritation of vas or vesicle, sometimes requiring mitigation by morphin. If the vas be occluded by stricture, severe pain may be caused by the injection of even 1 or 2 c.c. Regurgitation of collargol into the connective tissue around the opening in the vas follows overdistention, and causes a tender induration which gradually subsides, usually without suppuration.

If there be no occlusion of the seminal duct, collargol is passed with the urine for days following the injection, and the emitted semen is black—the latter phenomenon inspired in one patient the fear that his future children might be Ethiopians. When the weaker, nonirritating solutions are used at body temperature, the distended vas and vesicle may expel their contents into the urethra and bladder or even out of the meatus, so that a stream of black liquid flows from the syringe of the operator through the entire genital duct, escaping at the meatus. In these cases the opening of the ejaculatory duct into the prostatic urethra can usually be identified through a modern urethroscope, and a filiform bougie be passed into the duct.

By fastening into the vas a flanged silver tube the injection or irrigation may be repeated subsequently at the discretion of the operator.

Among the features revealed by this method are: (1) a peristalsis of ampulla and vesicle into the prostatic urethra, without the phenomena of emission—a function which explains certain obscure clinical phenomena; (2) the sphincteric closure of ampulla and vesicle; (3) the not infrequent occlusion of the ejaculatory duct, converting vas and vesicle into a retention cyst. Elaboration of these and other features exceeds the limits of this preliminary article, which is designed to bring this new means of studying the genital duct to the attention of the profession.

32 North State Street.

TWO UNCOMMON ESOPHAGEAL CASES

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The first case is of interest in showing the length of time that a large and irregular-shaped foreign body can be retained in the esophagus, the conclusions arrived at as to the safest procedure for its removal, and the operation.

Case 1.—J. S. (referred by Dr. Harry Landesman, New York), aged 34, married, machine worker in factory, whose family and personal history were negative, had been perfectly well up to nine weeks before I saw him, when, during his sleep one night, he was awakened by a strangling sensation and a pain in his throat. Within a moment he noticed that the right incisor tooth of the upper jaw, with the plate on which it was attached, was missing. He made efforts with his fingers to extract the plate from his throat but could not feel it. After an hour or two the symptoms of distress subsided and he fell asleep again. When he awoke in the morning his throat was sore, swollen and "reddish looking," and he had indefinite painful sensations in the upper part of his neck in the lateral hyoid regions. For two days he could not swallow anything. About the third day he began to get down some fluid, and each day thereafter he swallowed with less distress until, at the time I saw him (eight weeks after), he was partaking of fluid and semisolid foods. The patient had no pain under ordinary conditions, but when he made effort at swallowing he had a sticking sensation in the lateral hyoid regions high in the front of his neck, but no distress in the sternal region. This distress he described as the presence of something interfering with his swallowing. Dr. Landesman reported that he had passed a bougie several times into the patient's stomach, and had not noticed any obstruction, and the patient stated that he had examined his stools for the first four weeks and had not recovered the plate.

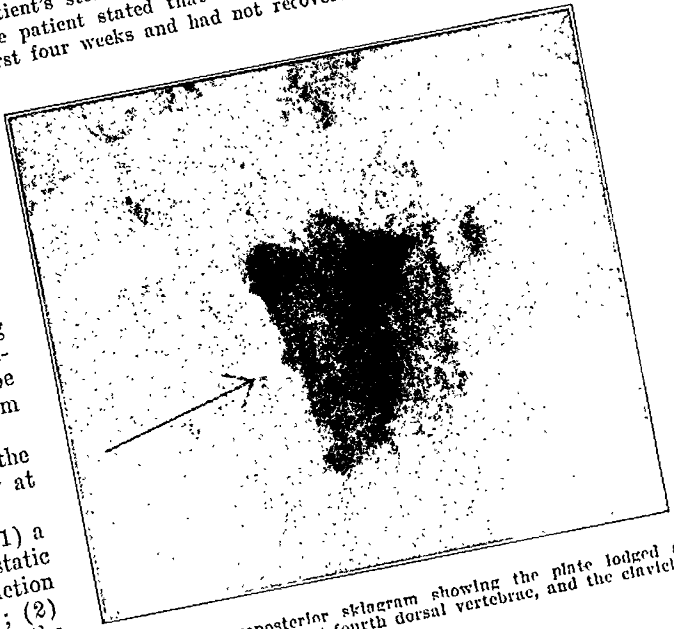

Fig. 1.—Anteroposterior skiagram showing the plate lodged at the level of the third and fourth dorsal vertebrae, and the clavicles in front (Case 1).

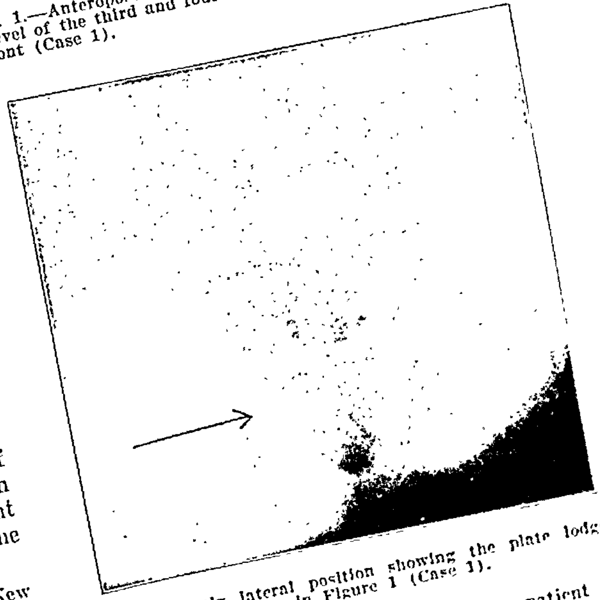

Fig. 2.—Slightly lateral position showing the plate lodged at the same level as shown in Figure 1 (Case 1).

Examination was negative, except that the patient had a slight degree of pharyngitis. The tip of a stomach-tube was arrested about the upper part of the sternal region. I did not pass a bougie, feeling that if the plate was lodged there it might cause a rupture of the esophagus. The patient described the tooth-plate as having one tooth fastened to it; it had a lower cutting edge and an upper edge which was flattened and sharp. He said that the plate was made of rubber, and originally had a clamp at both ends to hold it to certain teeth, but that one of these clamps had been broken off for some time. (T [illegible]

Figure 1 shows this perfect end to be pointed downward.) He said that the plate was a narrow one, was pointed at both ends, and had a sharp posterior edge. The two skiagrams (Figs. 1 and 2) show the shadow to be considerably wider than the description of the plate he gave and more irregular in outline than only such a plate would throw. My assumption was that he probably had some ulceration in the esophagus around it accounting for this.

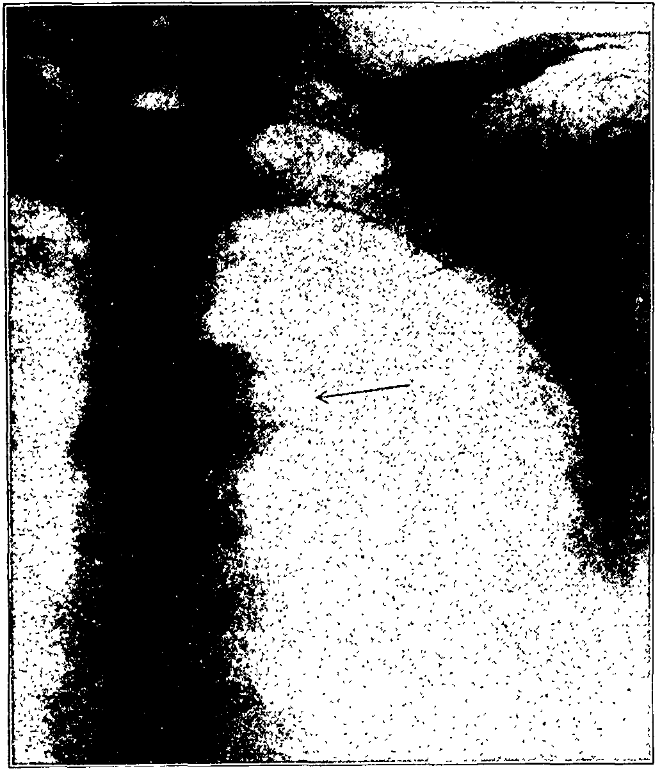

Fig. 3.—Anteroposterior skiagram showing calcification of the arch of the aorta, and other calcareous masses in the lungs (Case 2).

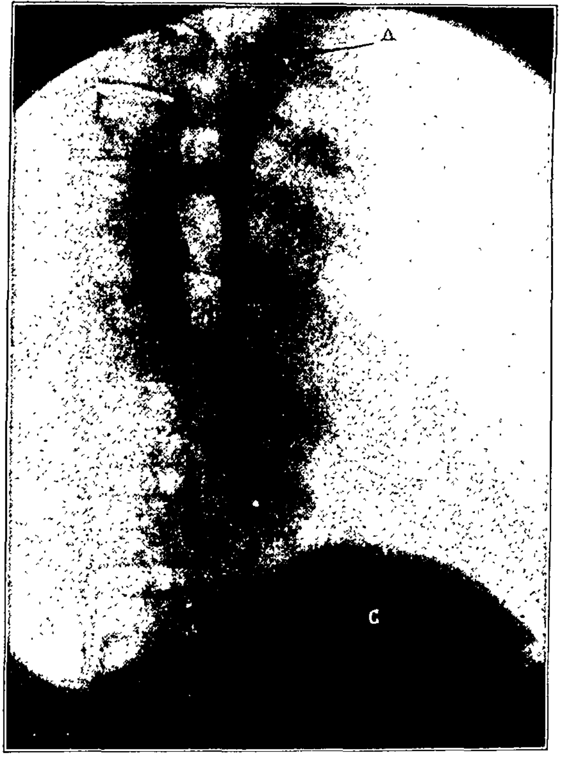

Fig. 4.—Dorsolateral skiagram showing pressure on the esophagus by the arch of the aorta at *A*, pressure on the esophagus by the base of the heart at *B*, and a retention in the esophagus between the two points, and bismuth in the stomach at *C* (Case 2).

While it would be an easy matter to pass an esophagoscope and seize the plate with an esophagus clamp, it is evident that the plate would have to be seized at the point where the edge was noted through the esophagoscope, there being little or no choice in the selection. The entire assemblage, that is, the esophagoscope and the clamp with the plate fastened at its lower end, would then be delivered by simple direct traction. Since the laryngopharyngeal junction is narrow, and a third skiagram showed that the tooth-plate was in the position which when drawn upward had the two sharp edges of the tooth on one side and the knife edge of the back of the plate on the other, it was plain that the opening of the esophagus would probably be badly cut in delivering the plate, thereby encouraging the danger of a cellulitis of the throat with a possible edema of the glottis. Since the main danger of its removal was a subsequent cellulitis, I decided that this would be minimized to the greatest extent by not endeavoring to remove the plate by the esophagoscope but by an open operation at the side of the neck. This was done one week afterward. Two days before it was performed, the patient began to complain of pains in his right and left thorax, mainly in the right shoulder running down the arm, which pains prevented him from sleeping.

Description of the operation by Dr. J. P. Grant at Dr. J. A. Wyeth's clinic, at the New York Polyclinic Hospital: "The patient was placed on the table with shoulders slightly elevated and face turned to the right. On the left side an incision was made, beginning at the level of the thyroid cartilage and extending downward along the anterior margin of the left sternomastoid for about three inches. The skin, platysma, and superficial and deep fasciae were divided. It was also found necessary in order to have a good exposure to divide the omohyoid. The thyroid gland and the trachea were then retracted to the right. The carotid sheath was next identified and retracted to the left. An esophageal bougie was then passed. At a point as deep in the neck as possible, the esophagus was seized with volsellum forceps and a longitudinal slit made over the bougie. The bougie was then withdrawn and the finger inserted into the esophageal wound. The plate was located apparently opposite the second costosternal junction, its base directed upward with the angle on the left side firmly imbedded in the esophagus. This projecting angle was broken off and removed with a pair of forceps, after which the plate was readily extracted. The wound was then lightly packed with gauze and patient returned to bed. For nine days the patient was nourished by rectum and kept sitting up in bed, and dressings were changed daily. On the tenth day the patient was given liquids by mouth and there being no escape through the esophageal wound, nourishment continued to be given this way. His convalescence was uneventful in every way."

The second case is of interest in showing a type of esophageal obstruction which has not been recognized as yet and which accounted for a peculiar swallowing symptom.

Case 2.—Mr. C. H. S. (referred by Dr. Stephen Lee, East Orange, N. J.), aged 78, married, manufacturer, family history negative, at the age of 30 noticed a swelling in the root of his neck on the right side. This was diagnosed by Dr. Willard Parker and Dr. Sands as an aneurysm of the subclavian artery for which nothing was done, and the growth has not enlarged in the last forty-eight years. The patient took exceptionally good care of himself in the way of diet, exercise, sleep, etc.

About five years ago he noticed a stinging and distressing sensation in the right chest when he swallowed acid food or drink. This was particularly noticeable when he drank lemonade or ate stewed tomatoes. This stinging sensation, when prominent, gave him flashes of distress down the left arm. He stated that he had no distress excepting when he partook of acid things, and then only for from five to ten minutes after he had swallowed, that partaking of these acid things did not cause him distress in the stomach, and that such distress as he had was entirely substernal.

Examination revealed a tall, thin type of man with an aneurysm of the second portion of the subclavian artery on the right side of the size of a small peach. No radial pulse was palpable on the right side. Blood-pressure, systolic, 186; diastolic, 100. Distinct atheroma of the right brachial. Urine contained increased amounts of indican, no albumin or casts. The heart was enlarged, and the aortic sound accentuated. There was general atony of the hollow viscera of the abdomen, and the second swallowing sound delayed to 30 seconds.

While the diagnoses of senility, aneurysm of the right subclavian artery, chronic excessive intestinal putrefaction of the indolic type, and arteriosclerosis, with gastro-enteric atony were possible, the main point in this connection was the interesting symptoms pertaining to swallowing. The supposition first was that the patient probably had an aneurysm in the arch of the aorta. although no physical signs suggested this. The diagnosis of the cause of the swallowing symptom was made and confirmed by *x*-ray (Figs. 3 and 4).

It is therefore plain that this man had a calcification of the aorta; the pressure on the gullet at that area caused by this calcification, and a pressure exerted on the esophagus by the upper part of the base of the heart, together caused a slight delay in transit in this portion of the tube. When the food or drink was of an acid nature, it irritated the mucous membrane of the esophagus at this midportion, and the patient had the symptoms described, which subsided in a few minutes when the contents in the esophagus had been delivered into the stomach.

THE PREVENTION OF ARTERIOSCLEROSIS AND HEART DISEASE IN OTHERWISE HEALTHY INDIVIDUALS PAST MIDDLE LIFE *

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Every observing person whose experience extends past 40 knows that heart disease is constantly developing among his contemporaries who are otherwise healthy. Surprise is often expressed that this man or that, in spite of what seemed to be right living, has become a victim of heart disease.

The slightest consideration leads to the belief that there is some active or hidden agent working to cause heart disease and hardening of the arteries, and a little examination shows that the causes are not those usually assigned. The healthy old drunkard disproves alcohol as a cause. Rheumatism more often attacks the young, and in later life generally spares the heart and blood-vessels. Men who really overwork are not so numerous as is often thought, and worry, while a great cause of heart disease, is indirect in its effect.

The fact is constantly appearing in the literature of the day that circulatory disease, as shown by statistics, is more frequent than formerly. Tuberculosis has for its victims the most attractive of the youth of the land, but heart disease claims the best and most successful of those past middle life. Much attention is being directed to tuberculosis because its cause and progress have become matters of public knowledge. The victims of heart disease, however, still too often go for months and years without intelligent treatment because no one has pointed out the danger-signals and because the interest in germ disease has absorbed every one's attention.

Heart disease and hardening of the arteries in nine times out of ten are, I believe, due to disturbances of the chemistry of the body. The prevention of heart disease and hardening of the arteries must be accomplished by a proper regulation of the chemistry of the body, particularly that pertaining to the intestines and the liver. This is accomplished through diet, rest and exercise, through the administration of certain well-defined remedies, and the limitation of nervous strain, than which nothing is more potent to upset the bodily chemistry. The technical chemistry involved is difficult and complicated in the extreme, and entirely beyond the comprehension of those not specially trained in the chemistry of this particular branch of work.

The truth is not found in popular explanations with such trite names as "intestinal fermentation," but in the ultimate chemistry of food substances and their changes in the human body.

The tendency to heart disease in otherwise healthy individuals past middle life can better be detected by a chemical examination of the urine than by an examination of the heart itself. By the time the heart itself shows poisoning, as appreciated by the sufferer because of palpitation, pain or shortness of breath, irretrievable damage has been done, and the chemical vice has become so deeply seated that an extreme regimen is necessary, while in the early stages a slight modification of diet and hygiene can check the trouble.

It is often remarked that the consumptive is fortunate who early in his disease has a severe hemorrhage that thoroughly convinces him of the necessity of treatment. In the beginning, heart disease and hardening of the arteries unfortunately have no symptoms, and the changes in the organs themselves are such as can be detected only by the most expert examination. Fortunate is the subject of these changes if the disturbing chemistry of the body leads to pronounced suffering in the direction of recurrent headache, biliousness or dyspepsia before the heart and blood-vessels are damaged, because these things may lead to treatment and prevention.

The prevention of heart disease and arteriosclerosis in otherwise healthy persons past middle life can be accomplished infallibly only when there is a periodic chemical examination of the bodily chemistry at stated intervals by an expert chemist, and when early and proper courses of treatment counteract the tendency before damage is done.

Some of the large life-insurance companies are now examining for this underlying chemical cause of heart disease in otherwise healthy persons who apply for large policies, and yet one of the saddest examples that I ever witnessed of chemical damage to the heart and blood-vessels was the case of the medical officer of one of these very companies.

My conclusions are the result of a practice devoted exclusively to the practical care of heart patients, but I would urge on my colleagues who are privileged to do laboratory research work its vitally important bearing on the life and well-being of mankind at the most useful period of life. The prevention of arteriosclerosis and heart disease in otherwise healthy persons past middle life thus brings up a problem that is seldom considered. However much const [illegible] may tend to there as it would have been to us. There have been no cases of bubonic plague for six years, though it is a disease always kept in mind, and careful search for it is made in rats that die or are killed.

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* Read before the Fifteenth International Congress on Hygiene and Demography, Washington, D. C., Sept. 27, 1912.

Diseases of the skin are quite common. Many are the same as those observed here, while others are peculiar to the tropical climate. A common and most troublesome one is dhobie itch, considered to be a filth disease, characterized by a scaling eruption sharply defined and with brownish pigmentation. It appears on the trunk, in the axillae and in the groins, and may spread over the entire body and extremities. It is believed to be of parasitic origin caused by the *Microspóron minutissimum,* and spreads by contact as does ringworm. The chief symptom is intense itching, which is relieved and the condition materially benefited by dhobie ointment, having the following composition:

	gm. or c.c.	
℞ Acidi salicylici		
Hydrargyri ammoniati....āā	2	gr. xx
Bismuthi subnitratis		
Olei eucalypti............āā	6	ʒ i
Lanolini ....ad	50	℥ i

This ointment is recommended for other conditions in which itching is a prominent symptom.

The eruption of secondary syphilis is frequently seen in all its varied forms. Sometimes it appears as the coarse papular scaling variety, which is quite characteristic even in the negroes. The macular syphilid is less easily recognized in these patients.

Judging from the number of cases seen during a short stay there, it would seem that psoriasis is frequent. Yaws is seen occasionally and resembles the eruption of impetigo. The crusts are elevated, the skin moist beneath and numerous spirochetes are present in the secretions. It is treated with salvarsan.

Tuberculosis is common, especially among the blacks, and presents the same difficulties in early diagnosis that we experience. Quite surprising was the frequency of pneumonia. We usually associate pneumonia, I think, with colder or more variable climates or with the winter months, though Osler states that it occurs equally in hot and cold countries, the incidence being greater in the winter and spring months. With a mean temperature ranging from 79.5 to 80.2 F. during the month of August, its prevalence would scarcely be suspected, yet cases were entering the hospital almost daily. It is said to be more common during the wet season.

Equally surprising was the frequency of influenza, manifesting itself not so much as we see it here (coryza, headache, fever, aching pains throughout the body, etc.) but as a bronchopneumonia or bronchitis, which runs its course in from three to six weeks. Abundant, greenish nummular sputum is raised, and it is believed that this often forms a nucleus for the later development of basal tuberculosis.

Infantile paralysis occurs occasionally, but it has not assumed the proportions of an epidemic at any time until last summer when several cases occurred.

Beriberi is seldom seen. Dr. Deeks, chief of the medical clinic, thinks that it occurs less often because polished rice does not constitute a very important article of the diet. Formerly it was encountered among Panamanians engaged in the pearl-fishing industry.

Pellagra is seen only occasionally, possibly because of the generous amount of protein included in the diet for both the sick and the well. If it progresses to dementia, recovery seldom occurs.

Postfebrile insanity seems to be much more frequent there than here. It is not limited to those sick with any particular disease, but may occur in any case in which there has been a prolonged elevation in temperature. These patients are transferred to the insane department of the hospital, where the majority recover.

Of children's diseases, intestinal disturbances are common. Diseases of nutrition are more rare than one would suppose. Milk is scarcely to be had even at 40 cents (gold, 80 cents silver) per quart. This makes artificial feeding impossible, as practiced here with modified cow's milk. Condensed milk is the most available substitute, though its shortcomings are well recognized when compared with breast-milk or modified cow's milk.

Acute articular rheumatism is not a common disease. Other forms of arthritis—gonorrheal, dysenteric, tuberculous and pneumonic—are frequently seen. In the gonorrheal form good results are being obtained by the use of gonococcus vaccine. Patients recover from that following dysentery with treatment of the latter.

Malaria is a common etiologic factor in nephritis, which occurs in both the acute and chronic forms. Quartan malaria among negroes may be so mild that nephritis does not develop; but in the other forms nephritis is common, occurs in direct proportion to the severity of the infection and is fatal quite as often as the malaria. This is especially true of the estivo-autumnal type. The Americans and Spaniards seem less likely to have a complicating nephritis following this disease.

Diseases of the stomach are met quite as commonly and are of about the same nature as those we have to deal with here; while diseases of the intestines are perhaps more common than any other, if we include the parasitic infections.

Typhoid fever is not common, contrary to what one might expect. I was impressed with the mild type of the disease as it occurs there, and saw but one patient in the hospital who presented the picture of a severe typhoid. As a rule the temperature is only moderately elevated with but little delirium and tympanites. Rarely hemorrhage or perforation occurs. This may be accounted for by the fact that paratyphoid infections are seen more often than typhoid, at least four varieties being recognized. Only two small epidemics have occurred, each having been traced to its origin and successful means used to check it. The *Bacillus enteritidis* is also known to produce symptoms simulating typhoid, and has to be considered in the diagnosis.

TREATMENT OF DYSENTERY

Most frequent of the intestinal disturbances, as well as the most serious, is dysentery. No less than fourteen varieties are recognized, of which the ameba, bilharzia, *Balantidium coli,* milk, meat, malaria, nephritis, various bacilli, cirrhosis of the liver and cardiac disease represent some of the more common causes.

By dysentery is meant frequent loose movements of the bowels containing blood and pus. The treatment is simple, depending on the cause, if it can be determined. The patient is put to bed at once and given a mild diet. Accurate data regarding the number and character of the stools are kept. Half an ounce of castor oil is given. This is followed in case of amebiasis by bismuth subnitrate, a heaping teaspoonful every four hours, until the stools are formed, then a teaspoonful three times a day. The bismuth is mixed into a paste with water, and then diluted to a full glass with some effervescent water before administration. Unless precautions are taken to give it well suspended, it will form a paste in the intestinal tract and may become toxic. This treatment is continued until the bowels are absolutely constipated for forty-eight hours and blood and pus can no longer be found microscopically in the stools. An ounce of castor oil is now given, and the patient is slowly returned to full diet and allowed to get up. Bismuth subnitrate, one teaspoonful three times a day, is continued during convalescence, and a tonic, such as the syrup of the iodid of iron (one dram, three times a day), is given. This treatment has supplanted the former treatment with ipecac. In obstinate cases not yielding to this treatment, the patients are operated on and the colon is irrigated with water or normal saline. Dysentery from other causes is treated symptomatically.

In amebic dysentery, liver abscess is the most common complication and is treated surgically. The differential count of the leukocytes is an important aid in diagnosis.

PARASITIC AND VENEREAL DISEASES, MALARIA, ETC.

Intestinal parasites, especially nematodes, are, of course, common, and of these the hookworm is the one most frequently found, as well as the most harmful. Practically all the negroes are infected with it. There is great variation in the severity of the infection, and many of the classic symptoms are wanting. Ground-itch is seldom seen. The most reasonable explanation for this would seem to be that the patients are not seen at the time infection occurs, as many so affected go without shoes and are therefore exposed at all times. Still another interesting observation is the absence of eosinophilia in these parasitic infections; this is particularly true of hookworm, in which eosinophilia is expected to be present. After prolonged search among those infected with hookworm, I was able to find a patient with 10 per cent. eosinophils. One possible explanation of this is that many of the patients have malaria, accompanied by a lymphocytosis, which has the effect of relatively diminishing the eosinophils, or possibly as is the case with trichinosis, the eosinophils are increased only during the infecting period. There is this difference however. In trichinosis the parasites are encysted within a month or six weeks after infection, and save for the reaction produced immediately around the cyst, no further harm is done and no symptoms are present, so far as is known. The eosinophils gradually diminish to normal or nearly so. In hookworm or other parasitic infections which are accompanied by an eosinophilia, the activity of the parasites is kept up as long as any are present; consequently one would expect that whatever causes the eosinophilia at the outset of the infection would tend toward its persistence.

Infection with intestinal parasites is rarely single because the conditions favorable for infection with one parasite suffice for others; and certainly conditions in the tropics are ideal for the development of parasites which undergo certain stages outside of the body of the host and do not require an intermediate host.

Other parasites found are *Strongyloides intestinalis, Ascaris lumbricoides, Trichocephalus trichiuris,* ciliated monads, less commonly *Oxyuris vermicularis* and bilharzia. Of the last-named, only ova with lateral spines are found, and these never in the urine. Flatworms do not occur more frequently than here.

Venereal diseases flourish, as one might expect, among people living as these natives do. Syphilis appears with all its varied manifestations. A definite history of it is almost never obtained, and the Wassermann reaction has done much to clear up the diagnosis of cases with obscure symptoms. Of a large number of patients examined in a single day, positive Wassermann reactions have been obtained in as high as 50 per cent. Late syphilis, malaria and liver abscess present a problem in diagnosis not always easy of solution.

Filaria is not uncommonly seen, but is seldom accompanied by chyluria. Elephantiasis with glandular involvement is suggestive in the older infections, being the result of the acute lymphadenitis, from which recovery is never complete.

An acute febrile disease peculiar to the Canal Zone, so far as is known at present, called "six-day fever," has been described in a preliminary report by Dr. Deeks,[1] chief of the medical clinic. It is of acute onset with chills, headache, backache and fever, the temperature reaching as high as 104° and falling on the sixth day by crisis to normal or below. The spleen is enlarged. Leukopenia with a high percentage of polynuclears is the most important blood change. Albuminuria is almost always present, sometimes accompanied by casts. A rash especially on the extremities is frequently seen in the severe cases at some period of the disease, often at the time of the crisis.

The commonest disease is malaria. It almost equaled yellow fever as a cause of death during the French occupation. The estivo-autumnal type predominates in the proportion of about 80 per cent., next in order of frequency is tertian and least often the quartan. Infections are of all degrees of severity, some patients showing an extreme anemia with jaundice on entrance to the hospital. In the cerebral form, which is scarcely mentioned by writers of text-books, the patient may be comatose on entrance, owing to a toxemia or to the capillaries of the brain being blocked by the malarial parasites. The spleen and bone-marrow in such cases may show but few organisms. Occasionally patients are actively delirious from the toxic condition. As a measure of severity, Dr. W. M. James has found that as high as 15 or 20 per cent. of the red cells contained plasmodia. Cases of such severe infection are promptly fatal unless treatment is begun near the onset of the paroxysm. Treatment consists in large doses of quinin, 22½ grains in 500 c.c. of normal salt solution intravenously, or the same dose in 1:20 dilution subcutaneously. If the parasites have matured before treatment is begun, the only hope is that the patient will survive the paroxysm, when the young forms of the next generation can be killed. This dose given intravenously and repeated in five hours will kill nearly every young parasite in the generation. If a double infection occurs, as not infrequently happens, in which both young and adult parasites are present, or if there is great toxemia or severe nephritis, the prognosis is bad. According to Dr. James an infection of 50 per cent. of the red cells, as reported by some authors, does not occur. The diagnosis of malaria need never be in doubt in untreated cases, and no untreated patient has died of malaria in the hospital without the diagnosis having been made by finding the plasmodia. Mild infections of malaria, or cases that have received treatment, in which no organisms are demonstrable, which run a course similar to malaria in every respect, are termed clinical malaria. Every case of malaria presents splenic enlargement, which usually diminishes under quinin treatment. The *x*-ray has produced good results in the relief of pain due to such enlargement. The tertian and quartan types are usually accompanied by anemia. Not so in the estivo-autumnal. The former are relapsing, especially the quartan. Dr. James after a careful study of this subject believes that from 60 to 70 per cent. of the total malaria in negroes and Spaniards at present is due to relapse. Americans who continue the treatment more faithfully seldom have a relapse. The treatment of these cases has been incomplete, possibly because of an immunity to the quinin acquired by the parasites; moreover, the parasites may disappear from the peripheral circulation, or symptoms may disappear completely when the patient is put to bed.

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[1] Deeks, W. E.: A Preliminary Report of a Hitherto Unrecognized Six-Day Fever in Ancon, Canal Zone, The Journal A. M. A., Oct. 26, 1912, p. 1511.

Two severe complications are met especially in the estivo-autumnal type. One is hemoglobinuric or Blackwater fever. The data relative to the etiology and treatment of the condition in the Canal Zone were made the subject of a complete report to the commission in 1911 by Drs. Deeks and James. It should be remembered that doses of quinin in any amount from ½ to 20 grains may produce Blackwater fever, and that it may occur as a result of malaria. It is an interesting fact that it seldom occurs in the negroes. The other complication is nephritis, which has been considered above.

The treatment for malaria in cases of moderate infection is quinin sulphate in solution (20 grains on admission, then 10 grains three times a day). Full diet is ordered. In severe cases the patients are kept in bed and given 10 grains of quinin every four hours, until improvement warrants its reduction to 10 grains three times a day. Quinin is always given in a dilute solution of sulphuric acid, 5 grains to a fluidram. Patients who cannot retain quinin given by the mouth, as well as those with very severe infections or toxic cases, are put on a liquid diet and quinin is given subcutaneously as above described. Intravenous injection of quinin is sometimes used in chronic cases with good results. The later treatment is 15 grains every six hours subcutaneously until the patient can take it by mouth. Blindness or deafness occasionally occurs after such heroic treatment, but recovery follows as soon as the medicaments are withheld.

THE LEPER COLONY

Until the commission assumed charge of the conditions affecting the health of residents of the Canal Zone and the quarantine regulations, including the cities of Colon and Panama, there was no provision for the isolation and care of cases of leprosy. These patients were to be found mingling with the people under conditions most favorable for the spread of the disease. The commission was quick to appreciate this, and promptly established a colony for such unfortunates. They are not allowed to pass quarantine, though it is possible for them to enter from inland places. The leper hospital is established at Palo Seco on the mainland across the bay from Ancon. Several buildings are provided for housing them, besides a building used as a school for the children, who are taught by one of their own number. This building also serves for religious services.

The colony consists of fifty patients, mostly negroes and Spaniards. Several members of one family are confined there. In general they are quite well contented. They are allowed a certain amount of freedom and are furnished with food, clothing and tobacco. In addition they are allowed to raise chickens and garden-stuff to be used by themselves, for which the commission pays them from $20 to $30 each month. In spite of this encouragement some are indolent and will not work or try to better their condition. These are most likely to complain of the food served them and the treatment they receive.

As a stimulus to investigation there is a well-organized medical association, which holds its meetings every month. Medical men from all over the Zone are invited to attend, and a special train is run leaving Panama at 11 p. m. It is unfortunate there as elsewhere that these men who have the desire and ability to engage in research cannot be relieved of the routine work and allowed to use their time and exercise their talent in original investigation and thus profit from the wealth of material that otherwise goes for naught.

SCHOOL FOR TROPICAL MEDICINE

Many of our medical schools are alive to the importance of a school of tropical medicine in this country. I have already referred to the importance of a knowledge of tropical diseases by every clinician. Most teachers believe thoroughly in practical courses of study, and this can best be brought about by bedside teaching. Knowledge of tropical medicine cannot be obtained from textbooks alone any more than can a knowledge of the commoner diseases. The importance of seeing the patient, taking the history, making frequent physical examinations, the work in the clinical laboratory, the treatment and subsequent course of the disease, as well as post-mortem findings is as essential to a full understanding of diseases peculiar to the tropics as of diseases studied here.

Some have suggested the establishment of schools of tropical medicine in the larger seaport towns depending on the patients who are ill on arriving in quarantine to supply the clinical material. There are several objections to this; first, the number of patients is necessarily small; second, patients ill of a disease contracted in the tropics do not take long sea voyages, especially if there is a likelihood of the disease from which they are suffering keeping them in quarantine. Most of those who have contracted diseases in the tropics and are allowed to pass quarantine are seen in the various hospitals of our larger cities. They would afford meager clinical material for students in tropical medicine. No place is so well suited for the study of tropical diseases as is a tropical port where may be studied the disease, its mode of infection, the various types of the disease, and the habits of life and the surroundings of patients, the most severely afflicted of whom could scarcely undertake a trip northward for medical treatment. It is necessary that the treatment be carried to the patients. In the western hemisphere no place is so available for such a school as the Canal Zone. Though it be depopulated, as is anticipated, except for the two cities of Colon and Panama, there will always be need of one or more hospitals, if contemplated travel reaches expectations. A single school or several schools should combine to establish such a hospital in the tropics where medical students in their final year may elect to do their work and where postgraduate work may be done. The study of the practical application of sanitation in the tropics, as well as of diseases peculiar to that area, would well repay the student or clinician beyond the fullest measure.

My thanks are due to the commission for the privileges accorded me at the hospital, to Dr. W. E. Deeks, chief of the medical clinic, to Dr. W. M. James, his first assistant, as well as to his other assistants for their very generous hospitality.

535 Beacon Street.

The Perennial Possibility of Pregnancy.—Never assume that a patient cannot be pregnant unless you have yourself taken away her uterus and ovaries, and even then you had better examine to make sure.—Arthur E. Giles in *Clin. Jour.*, London.

AN ANALYSIS OF FOUR HUNDRED AND TWENTY-SIX CEREBROSPINAL FLUIDS FROM VARIOUS PATHOLOGIC CONDITIONS*

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The use of the fluid contained in the cerebrospinal canal for the purposes of aid in diagnosis presents additional evidence of the tendency of modern medicine. Advantage is taken of all possible available means for clearing up the many obscure conditions which still constitute the bulk of the science and which have baffled the diagnostic skill of the physician from the earliest time to the present day. If any branch of medicine is in need of aid in diagnosis, that devoted to the study of diseases referable to the cerebrospinal tract is certainly the one.

It is to be borne in mind, and special emphasis is laid on the fact, that the signs and symptoms manifested by the cerebrospinal tract in the course of disease do not necessarily mean disease of this part of the body any more than the bleeding from the nose in typhoid represents local disease, bronchitis a disease of the respiratory tract, or a severe eruption a disease of the skin.

This study has been conducted in an attempt to give these symptoms their proper interpretation. No claim is laid to profound research or exhaustiveness; only along those lines which were thought practical in a laboratory of a general hospital, and with the definite purpose of aiding the visiting staff, were these examinations made.

The investigation covers a period of six years, from 1907 to 1912, inclusive, and embodies the result, in epitomized form, of examinations of 426 fluids from 317 cases.

It was deemed most practical to examine the fluids for the following characteristics:

Quantity, whether increased or diminished.
Appearance, whether clear, turbid or bloody.
The albumin and globulin content.
The capacity for reducing Fehling's solution.
The cytology, bacteriology, animal inoculation and agglutination properties; and for the past two years, complement-fixation tests were made.

The conclusions which are noted at the end of this contribution should prove of special practical value to the general practitioner, and if they differ in some respects from those generally accepted, they have nevertheless proved to be reliable and practical guides.

For the purpose of the general practitioner, the most practical classification of the cerebrospinal fluids is their division into clear fluids and turbid fluids. This one physical characteristic in itself gives immediate, important and definite information of the existing condition regardless of its chemistry and bacteriology.

Under the head of the clear pathologic fluids stands out prominently the group of the tuberculous meningitides, thirty-nine cases in all. Though as a rule clear, yet the fluid in two of these cases was decidedly turbid, and in five it contained blood, the result of injury to blood-vessels during puncture. In many that were allowed to stand for a few hours, a large fibrinous flocculus formed. This flocculus, when incorporated with the centrifugalized sediment on the smear preparation, was found often to contain in its meshes tubercle bacilli. The albumin content of the fluids as determined by the nitric acid contact test was rather large, varying from 1 to 3 mm. in thickness. In all but five of the cases there was a failure to reduce Fehling's solution. The globulin reaction was uniformly positive even in the early cases. The cytology in all but two was an abundant lymphocytosis, the two turbid ones already mentioned containing an excess of polymorphonuclear cells. One in fact was of purulent nature. No other bacteria were found in this specimen, and therefore it is not probable that the cytology was due to a secondary infection. Tubercle bacilli were found in all cases. In thirty-two, or 82 per cent. of the cases, they were found on the first examination, in six on the second and in one on the third. Therefore we are justified in saying that the presence of a fibrinous flocculus, absence of Fehling's reduction, the positive globulin reaction and an abundant cytology consisting mainly of lymphocytes should always be regarded as suspicious of tuberculosis, and a negative report given only when the search has been exhaustive. The above-mentioned results are no doubt due to the employment of a systematic method of persistent search in suspected fluids, two or three men hunting through the smear preparation for a long time, sometimes for a total of from three to six hours.

Animal inoculation is sometimes employed to confirm the bacteriologic findings when the clinical picture is atypical. In six instances the guinea-pigs on autopsy showed the typical lesions of the disease. The laboratory has been able to aid the clinician in many of these cases, in some of which the patients were admitted with diagnoses of typhoid fever, cerebrospinal meningitis, serous meningitis, sinus thrombosis due to middle-ear disease and even postconnubial insanity. The importance of finding the tubercle bacilli in these cases is apparent. In one case operation was contradicted by a report of the presence of tubercle bacilli in the fluid of a patient admitted to the hospital for lateral sinus thrombosis. So far as can be ascertained, all those cases in which tubercle bacilli were discovered in the spinal fluids ended fatally, while those in which this finding was negative followed a different course than tuberculous meningitis, or terminated in a manner to indicate other disease than tuberculosis of the cerebrospinal tract. These observations seem to disprove the prevalent opinion among general practitioners that the tubercle bacillus is found only occasionally in the cerebrospinal fluid and not until late in the disease.

Symptoms of meningeal involvement during the course of either bronchopneumonia or lobar pneumonia have always been a source of mental disquiet to the physician, and the question of the presence or absence of this complication can be decisively settled by lumbar puncture. In twenty-five cases of pneumonia showing meningeal symptoms, but four gave bacteriologic evidence of a true pneumococcic meningeal inflammation. Although the difference between the symptoms of meningeal irritation (so-called m nd true pneumococcic meningitis are marked differential charact determine the condition. V toms were due only to in to be absolutely normal puncture relieved the symptoms of the patient affected as well as the mind of the attending physician; for as long as the chemical and cytologic findings were a low albumin content, a reduction of Fehling's solution and a negative globulin reaction with a sparse cytology of two or three lymphocytes per microscopic field, meningitis without question of a doubt could be ruled out.

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* From the Laboratory of the Jewish Hospital of Brooklyn.

The fluids of true pneumococcus meningitis differed in no way from other purulent fluids except in the biology of the infecting organism. Turbidity of the fluid with abnormal chemical reactions, and the presence of pus with pneumococci in the smear preparations and in cultures were constant findings. In three of the four cases in which the records were available, culture from the blood of these patients yielded the pneumococcus even before the meningeal symptoms became sufficiently severe to indicate lumbar puncture. This study tends to show that the occurrence of a true meningitis during pneumonia can be determined almost instantly at the bedside by means of a lumbar puncture; the presence of a turbidity means an infected fluid; a clear fluid denotes only meningismus.

Clear fluids were obtained in fifteen cases of typhoid fever, in three cases of Brill's disease, in three of tetanus and in seventeen cases of nephritis and uremia. In the nephritic group, there was always an increase in the quantity of the fluid, and in four there was a failure of Fehling's reduction. Otherwise the fluids evidenced no abnormalities. In typhoid fever it was noted that from none of the fluids was there cultured the typhoid bacillus, nor in any could be demonstrated the presence of typhoid agglutinins by the Widal method. The amounts of fluid obtained in the entire group ranged from 6 to 65 c.c.

In serous meningitis, poliomyelitis, poliencephalitis and traumatism of the brain and skull, the latter including two bullet wounds, five concussions and four fractures of the skull, the common finding was an increase in the intraspinal pressure as evidenced by the large amounts of fluid obtained on puncture. The poliomyelitis and poliencephalitis cases, twelve in all, showed differences from the normal only in relation to the duration of the disease; the early cases (early from the point of view of date of hospital admission, that is, about one week after the onset of the disease) gave a marked lymphocytosis; the late cases gave a normal cytology. There were five such early cases, and all gave positive globulin reactions with a turbid appearance of each fluid. The three cases of serous meningitis gave negative findings. The ten traumatic cases varied. One was bloody and two were turbid, the latter yielding on cultures the *Streptococcus pyogenes.* No other abnormalities were noted.

Four syphilitic fluids were examined. In all the intraspinal content was greater than normal, the albumin ring was increased and the globulin test was positive. The cytology consisted of numerous lymphocytes and some degenerated endothelial cells. The complement-fixation test for syphilis was made in three cases, and these were positive. In two the same test was found to be positive in the blood, and in one, negative. This result is in accordance with the prevailing opinion that in cerebrospinal syphilis, although the blood may not contain to any appreciable extent syphilitic complement-fixation substances, lumbar puncture and an examination of the cerebrospinal fluid may be necessary to substantiate a diagnosis of general paresis, tabes or cerebrospinal syphilis.

Examination of the turbid fluids was less complicated than that of the clear specimens, because bacteriologically the findings were usually quite definite and the chemical tests were always abnormal.

Under this head there are seventeen cases of epidemic cerebrospinal meningitis. In this group, careful study showed that these fluids differed in no way from other infections with pyogenic organisms except that the exciting factor was the meningococcus. After repeated use of Flexner's serum it was noted that the number of bacteria diminished; most of them became intracellular, swollen, showed signs of degeneration, grew poorly on culture mediums, and in favorable cases finally disappeared. The pus cytology gradually gave way to a lymphocytosis, and that was finally replaced by a normal cell content.

In twenty-four cases of ear and nose diseases and local brain lesions lumbar puncture revealed an interesting set of conditions. There were found infections of the cerebrospinal system in eleven cases due to the *Streptococcus pyogenes,* in one to the *Staphylococcus pyogenes aureus,* in one to the *Diplococcus pneumoniae,* and in one to the *Bacillus mucosus capsulatus.* These infections followed mastoiditis, ethmoid and frontal sinus operations (performed in dispensaries) and subdural abscess. All these fluids showed the general characteristics of the infected type already described. In ten cases the findings were normal.

Included in the turbid fluids are twenty-two bloody specimens; these naturally were useless for diagnostic aid. In this connection we might sound a note of caution. In order to obtain reliable and definite information from the examination of a cerebrospinal fluid, it is of utmost importance that the specimen be free from blood, for the reason that the slightest amount of blood in the fluid submitted for examination interferes with the chemical and cytologic studies. We have observed that although the production of even a considerable hemorrhage into the spinal canal does not apparently inconvenience the patient, the blood may remain there for a comparatively long period of time, and in lumbar punctures done even a week or two later may betray its presence on test. That the presence of blood-serum from blood contamination may interfere with the cultural studies is also to be borne in mind.

The remaining eighty-three fluids are from patients suffering with a variety of general conditions; in these the puncture was done either for aid to diagnosis or for the relief of meningeal symptoms. This group, however, contains a number of fluids which though otherwise normal, showed a large lymphocyte content. The number of these cases was about thirty. We refer to the cases of intestinal auto-intoxication characterized by meningeal symptoms, and resembling tuberculous meningitis. A few of these fluids gave a positive globulin reaction, but persistent search in all failed to reveal the presence of tubercle bacilli. Three of these fluids were injected into guinea-pigs with negative results. On many of these patients repeated lumbar punctures were done (in one case seven times), and the fluids were examined again and again without finding the tubercle bacillus. Every one of these patients recovered. This class demonstrates that there are types of cases simulating tuberculous meningitis, in the spinal fluids of which tubercle bacilli cannot be found, and in which to further prove that they are not tuberculous meningitis recovery takes place.

Note is here made of the fact that from none of the fluids could the influenza bacillus be recovered, though in suspected cases the greatest care and the most favorable mediums were employed.

This leaves us with fifty-six fluids which cannot as yet be classified on account of insufficient data, and concludes the observations on the study of 426 fluids obtained from 317 cases.

Briefly, the following practical facts can be formulated from this study:

Turbidity of the fluid, when not due to the presence of blood, means an acute infection of the cerebrospinal system, and bacteriologic examination reveals the causative organism. Rarely, chronic inflammation or tuberculous meningitis gives a turbid fluid.

A clear fluid with the failure to reduce Fehling's solution, a positive globulin reaction and abundant lymphocytosis usually means tuberculosis, especially if in addition there is formation of a fibrinous flocculus on standing.

Cases of intestinal auto-intoxication with meningeal symptoms may yield fluids chemically and cytologically resembling tuberculous ones.

Search for the tubercle bacillus in suspected fluids must be persistent and exhaustive.

In typhoid fever, Brill's disease, pneumonia and occasionally in infections of other etiology in which the meningeal symptoms are a conspicuous part of the clinical picture, examination of the spinal fluid will not show the existence of infection of the cerebrospinal tract, the symptoms being due to what is termed meningismus. The latter is probably an irritative condition only.

In pneumonia, when infection does occur, the findings differ in no way from those of other pyogenic fluids, except that the causative organism is the pneumococcus.

In poliomyelitis, poliencephalitis, serous meningitis and in tetanus, an examination of the cerebrospinal fluid possesses a negative value in that the fluid does not point to any specific infection.

In cerebrospinal syphilis one may obtain a positive complement-fixation test when the blood-serum gives a negative reaction.

Diseases of, and operations on the ear and nose are responsible for a large percentage of infections of the cerebrospinal tract.

The presence of blood renders valueless the chemical and cytologic study of the fluid, and may interfere with the bacteriologic examination.

We have yet to meet a case which will result in what is commonly termed dry tap.

Lumbar puncture in the experiences recorded is a harmless procedure and an invaluable aid to diagnosis and treatment in general medicine.

We wish to express our appreciation and deep sense of obligation to the visiting and intern staff of the hospital for their hearty cooperation in facilitating this study.

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A NEW PREPARALYTIC SYMPTOM OF POLIOMYELITIS

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"Infantile paralysis" has been a common disease for years, yet without paralysis no diagnosis has been positive. The early clinical picture is that of infection or meningitis; when properly coordinated it is only suggestive of poliomyelitis, and even with lumbar puncture there is still some degree of doubt. During the recent epidemic in Los Angeles I made a few hundred observations of a symptom in sixteen cases which seemed absolutely characteristic of the preparalytic stage. The symptom has been of great value to me, and inasmuch as it is not mentioned in any text-book or the recent literature I am submitting it to the readers of The Journal for their criticism.

NEW SYMPTOM

The symptom referred to is a peculiar twitching, tremulous or convulsive movement of certain groups of muscles lasting from a few seconds to less than a minute. The amplitude of vibration is greater than a tremor, not so constant and long as a convulsion, and more regular than mere twitching, yet it has some elements of all of these. It usually affects a part or whole of one or more limbs, the face or jaw, but it may sometimes affect the whole body. The symptom may easily be overlooked in the beginning as it usually lasts less than a second and unless the patient is disturbed does not recur oftener than every hour or so. Later the duration of the spells lengthens to a few seconds, recurring also at shorter intervals. This condition is often accompanied by a peculiar cry similar to the hydrocephalic. At times there is a slight convulsive movement, just like a chill, as mothers say, during which time the child is apparently unconscious with eyes set for a few seconds, and then he apparently becomes perfectly normal again. This brief unconsciousness during which the child's eyes are set may occur without noticeable convulsive movements. It acts thus something like a petit mal. I have observed it as a twitching of the lips with tongue running in and out and a working of jaw, preceding bulbar cases.

RESEMBLANCE TO STRYCHNIN POISONING

The phenomenon resembles those found in light cases of strychnin poisoning except that the tetanic contractions are not general and do not last for a long time. They usually involve a set of muscles with one or more of the counter muscles not affected. There is also a similar hypersensitiveness of the skin. The least stimulation of the skin is followed by slight convulsive movements with rigidity of the arms, fingers separated and wrist flexed. When the patient turns in bed, through either an external stimulus or an effort to coordinate, the movements are quick and jerky, accompanied usually with slight convulsive movements of the limbs. The least noise produces in certain cases short series of convulsive movements similar to those in strychnin poisoning, only not so general.

RESEMBLANCE TO INFECTION NEUROSES

This symptom seems to be similar to the infection neuroses described by neurologists, of which tetany and chorea are good examples. It is not unreasonable to suppose that the presence of the virus of poliomyelitis may bring about effects similar to those of chorea and tetany. A local chemical or other irritation of the nervous centers is produced with subsequent fatigue and later recuperation resulting in the peculiar motor phenomenon which I have described as a preparalytic symptom.

THEORY OF NEW SYMPTOM

Having once observed this phenomenon which, until I began to look it up. I took to [illegible] a comm[illegible] [illegible]mptom, I at once set out to find an [illegible] ion. [illegible] ing t[illegible] the best authorities (Fle[illegible] [illegible] and others), during this tains great quantities of the virus which disappear more or less as soon as paralysis sets in. With this there is an increase in spinal pressure which throws the ganglia and cells into a highly excited state. Some areas are attacked more than others and we have a series of explosive contractions followed by rest similar to the artificial chemical excitation with fatigue manifested in a muscle-nerve preparation.

I have thus endeavored to explain the cause of the tremulous twitching, convulsive petit mal phenomena. Can we explain their peculiar local distribution? And can we explain the lack of coordination and the escape of one or more counter muscles? It will be remembered that the virus attacks not only the nerve tissue but also the vascular system. According to Peabody, Draper and Dochez there is a cellular exudate surrounding the vessels and pressing on the lumen. Edema with or without hemorrhages, large and small, into the cord is not uncommon. The blood-supply in the cord is horizontal while the nerve-supply to a group of muscles is not all derived from the same segment. The cord may be affected in some segments while not in others. This would account for the peculiar distribution and lack of coordination. The result of this condition is always noticeable in convalescence, when children have had to learn to walk and to feed themselves again, and others must learn again to talk.

The only reference found to this symptom in literature is made by Wickman, Zappert and Wilbur. Wickman observed one phase of it and but once in his many cases, while both Zappert and Wilbur observed only the muscular twitching in limbs. No one so far as I can learn has described the symptom I have just discussed. I have not worked out to my satisfaction the relation of the local symptom to the paralysis.

SOME FEATURES OF THE THEORY AND PRACTICE OF MEDICINE DURING THE SEVENTEENTH CENTURY

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(Continued from page 714)

THE PRACTICE OF MEDICINE

So much for the state of science and the theory of medicine in the early part of the seventeenth century. In regard to the practice of medicine at that period we must depend partly on indirect and collateral, rather than on direct and immediate, testimony. We must step a little aside and view it through other lenses. And the seventeenth-century literature gives us a large and harmonious idea of the usual and current conduct of medicine, for in addition to its scientific development, it produced some of the greatest names in the literature of the world, Shakespeare and Burton, Sarpi and Bacon, Sir Thomas Browne and Milton, Corneille and Racine, Molière and Cervantes. Still as one must go to Aristophanes for a picture of Athenian morals and customs during his period, so it is in Molière and Lesage that one finds the truest pictures of contemporary physicians and of the relations that they sustained to the people, during the period under investigation.

We must confess that at this time the general attitude toward the profession was one of hostility, and deservedly so. Medicine had not at all kept up with the progress of humanity and civilization. No one had arisen to revive the method or to dispute the authority of Hippocrates. The younger Scaliger, who died in 1609 and who was a friend of Montaigne and a pupil of George Buchanan, had discredited Galen, whom he styled *fimbriae Hippocratis,* the fringe of Hippocrates, but Hippocrates was still the ultimate authority in medicine. His hypotheses still ruled, though they were stamped with the name of Galen, and his precepts stil prevailed. But shrewd as was his insight and wise as were his precepts, they had held the stage too long. Their spirit was long since gone and nothing but the letter remained. Authority is as fatal to medicine as it is to religion, and medicine at least was still held in subjection to a great name. Molière found in the physicians of his time a delightful field for the exercise of his humor. Indeed, it is said that in the group of physicians who held the curious consultation in "L'Amour Médecin," the features of the four principal court-physicians are plainly to be discerned. M. Guy Patin in his "Letters" says that Molière "did not even exaggerate the customs of the physicians of his time." To be sure, it might reasonably be objected to this testimony that while M. Patin is willing to vouch for Molière, no one seems to come forward to do the same for him. Still, the portraits of Molière are inherently probable or M. Patin's evidence alone would be of little value.

"But," said the king one day to the dramatist, "you have a physician yourself, M. Molière. What does he do for you?"

"Sire," replied Molière, "he comes to see me and we talk together. He gives me advice, I neglect to follow it and I get well."

To demonstrate how fully the practice of medicine was drawing its nourishment during the seventeenth century from the inspiration of Hippocrates twenty centuries earlier, I shall translate a few passages from Molière. In "M. de Pourceaugnac" the apothecary extols the rigid observance of the rules of medicine as exemplified by his friend, the physician of the play. He says:

> *Apoth.*—It is not because we are such good friends that I say so, but it is a pleasure, a genuine pleasure, to be his patient, and I would rather die under his care than get well under that of another. For whatever may happen, you may be sure that everything is in proper order, and when you die under his care your heirs cannot reproach you.
>
> *Eraste.*—That must be a great comfort to a patient.
>
> *Apoth.*—It certainly is. One is sure of dying methodically. Moreover, he is not one of those physicians who prolong diseases. He acts quickly and loves to dismiss his patients.

In the next scene of the same play the physician, whose praises you have just heard sung, is summoned by a country lad to call on his father who is ill.

> *Countryman.*—Sir, his strength is almost gone, and he says that he suffers the greatest pain in the world in his head.
>
> *Doctor.*—The patient is a fool. In the disease that he has it is not in the head but according to Galen in the spleen that he should have pain.
>
> *Countryman.*—That may be, sir; but, moreover, he has had a diarrhea for six months.
>
> *Doctor.*—Good! That is a sign that he is loosening up inside. I will go and see him in two or three days, but if he dies before then, do not fail to let me know. It is in no way seemly for a physician to visit a dead man.
>
> *Country girl* (running up).—My father, sir, is getting worse and worse.
>
> *Doctor.*—That is not my fault. I am giving him medicines. Why doesn't he get well? How many times has he been bled?

Fifteen times, sir, within twenty days.

Country girl.—Fifteen times, sir, within twenty days.

Doctor.—Fifteen times?

Country girl.—Yes, sir.

Doctor.—And he is not yet well?

Country girl.—No, sir!

Doctor.—That proves that the disease is not in the blood. We will then purge him an equal number of times to find out whether it may be in the humors, and if that does not help, we will send him to the baths.

In "L'Amour Médecin," Lucinde loses her appetite, through disappointed affection, and her father, Sganarelle, calls in four physicians, MM. Desfonandès, Tomès, Macroton and Bahis, under which names are thinly disguised MM. Desfougeras, Esprit, Guenaut and Dacquin. The maid Lisette recognizes M. Tomès and says in surprise:

Lisette.—Ah, sir, are you here!

Sganarelle.—You know the doctor, then?

Lisette.—I saw him the other day at the house of the friend of your niece.

Tomès.—And how is her coachman getting on?

Lisette.—Fine. He is dead.

Tomès.—Dead!

Lisette.—Yes.

Tomès.—That is not possible.

Lisette.—It may not be possible, but it is true.

Tomès.—He cannot be dead, I tell you.

Lisette.—And I tell you that he is dead and buried.

Tomès.—You are mistaken.

Lisette.—I saw him.

Tomès.—It is impossible. Hippocrates says that such diseases end only on the fourteenth or the twenty-first day, and it is but six days since he fell ill.

Lisette.—Hippocrates may say what he pleases, but the coachman is dead.

The four physicians then hold their consultation over the indisposition of Lucinde.

(They sit down and cough.)

Desfonandès.—Paris is an enormous city, and one must travel long distances for a little money.

Tomès.—I must confess that I have an excellent mule for the road, and one would hardly believe the distance that I ride him every day.

Desfonandès.—And I have a wonderful horse. He is an animal that never tires.

Tomès.—Do you know the distance that my mule has made to-day? I went first down in front of the Arsenal, from the Arsenal to the end of the Faubourg St. Germain, from there to the bottom of the Marais, then to the Porte St. Honoré, then to the Faubourg St. Jacques, afterward to the Porte Richelieu and from the Porte Richelieu here. And from here I must go to the Place Royale.

Desfonandès.—My horse has gone as far as that to-day besides a journey to Rueil to see a patient.

Tomès.—By the way, what part do you take in the dispute between the two physicians Théophraste and Artémius? That is a quarrel that is dividing the whole profession.

Desfonandès.—I am on Artémius' side.

Tomès.—So am I. Not but that his advice, as was manifest, killed the patient, nor but that the advice of Théophraste was much better; still, he was wrong under the circumstances, for he ought not to have had a different opinion from the elder physician. What do you say?

Desfonandès.—Certainly. One must always observe the necessary formalities, whatever may happen.

Tomès.—For my part, I am rigid and inflexible unless it be among my friends. One day three of us were called in consultation with an outside physician, when I blocked the whole affair and would not suffer an opinion to be expressed unless due order was observed. The case was urgent, but I refused to give way, and the patient died during the dispute.

Desfonandès.—You gave them a good lesson and showed them their folly.

Tomès.—A man dead is only a dead man, and is of no consequence, but a rule neglected brings disrepute on the whole profession.

Sganarelle (rushing in).—Gentlemen, my daughter is getting worse. I beseech you, tell me what you have decided on.

Tomès (to Desfonandès).—It is for you to speak.

Desfonandès.—No, sir. Speak first, if you please.

Tomès.—You are too polite.

Desfonandès.—I will not be the first to speak.

Tomès.—My dear sir!

Desfonandès.—My dear sir!

Sganarelle.—For God's sake, gentlemen, lay ceremony aside. The case is urgent.

Tomès.—Sir, we have with mature reflection, considered the illness of your daughter. My personal opinion is that it proceeds from an undue heat of the blood, and my advice is that she be bled as soon as possible.

Desfonandès.—I on the contrary declare that her illness is due to a decomposition of humors caused by overeating, and my advice is to give her an emetic.

Tomès.—I contend that an emetic will kill her.

Desfonandès.—I am sure that bleeding will put an end to her life.

Tomès.—And this is an example of your ability!

Desfonandès.—It is. I am your superior in every department of learning.

Tomès.—Do you remember the man you killed the other day?

Desfonandès.—Do you recollect the woman you sent to the other world last Tuesday?

Tomès (to Sganarelle).—I have told you my opinion.

Desfonandès (to Sganarelle).—I have given you my advice.

Tomès.—If your daughter be not bled, she will die. (Exit.)

Desfonandès.—If you bleed her, she will not live fifteen minutes. (Exit.)

Here's a how-de-do! Here's a state of things! Of course this is a comedy, and the daughter was in no danger of death. But it was no comedy to the consulting physicians. Earnest enough in all conscience they were, and sincere enough, too, doubtless, in their opinions. But it was a time when medicine was a reminiscence merely; a dull, blind servility to rule and creed, which had once been alive and generous and beneficent, which was again to become alive and generous and beneficent, but was for the time being the thing that Molière depicted. When in the same play M. Macroton gives his opinion of the daughter's case he adds, with a solemn drawl:

Macroton.—Not that your daughter may not die withal, but at least you will have done something, and you will have the consolation of knowing that she dies according to the rules.

To which M. Bahis hastens to add:

Bahis.—It is better to die according to the rules than to escape death by violating them.

Could pedantry go further? Practical pedantry perhaps could not. Speculative pedantry seems to have no limit, but it reaches its ultimate expression, its highest articulate utterance, in the character of the young physician, Dr. Thomas Diafoirus, in "Le Malade Imaginaire."

Young Dr. Diafoirus is a suitor for the hand of Angélique, the daughter of Argan. The elder Diafoirus, also a physician, brings his son to the house of Argan for the formal betrothal. After the first ceremonious greetings Diafoirus *père* says to his son:

Diafoirus.—Come forward Thomas. Make your compliments.

Thomas.—Is it proper to commence with the father?

Diafoirus.—Yes. [illegible]

Thomas.—Monsieur, I [illegible] come that I may [illegible] recognize, cherish and reve[illegible] father to whom I [illegible] the first. He ind[illegible] me by necessity, but you have accepted me by your favor. What I have of him is a work of the body, but what I have of you is a work of your will; and as the faculties of the spirit are above those of the body, so much the more am I indebted to you—so much the more do I prize that prospective relationship in which I come to-day to render you, in anticipation, my very humble and very respectful duty.

When the young lady is called forward to greet her fiancé, he mistakes her for her mother and begins:

Thomas.—Madame, it is with justice that heaven has granted you the name of belle-mère, since—

Argan.—That is not my wife, but my daughter to whom you are speaking.

Thomas.—Where is she?

Argan.—She will come in soon.

Thomas.—Father, shall I wait until she comes?

Diafoirus.—Make first your compliment to the young lady.

Thomas.—Mademoiselle, as the statue of Memnon breathes forth a harmonious sound when it is illuminated by the first rays of the rising sun, so, precisely, do I feel myself animated by a sweet rapture at the appearance of the sun of your beauty; and as the naturalists inform us that the flower called heliotrope turns without ceasing toward that star of day, so my heart will henceforth turn without ceasing toward those splendid stars, your adorable eyes, as to its single pole. Suffer me then, mademoiselle, to place to-day on the altar of your charms, the offering of my heart, which neither desires nor solicits any other glory than to be, mademoiselle, for my whole life your very humble, very obedient and very faithful servant and husband.

In his character as a physician Thomas sustains his promise as a man. His father bestows on him the well-deserved praise "of binding himself blindly to the opinions of the ancients, and of never desiring to comprehend or even to hear the arguments about the pretended discoveries of the century, respecting the circulation of the blood and other opinions of the same paste."

Thomas, that he may be seen to merit his father's eulogy, at once draws a wad of paper from his pocket and offers it to Angélique saying:

I have here a thesis in which I take issue against the "circulators," and, with due permission, I will venture to present it to mademoiselle as the first fruits of my mind. Moreover, also with due permission, I will invite you for your amusement to come, one of these days, to witness the dissection of a subject on which I am to lecture.

Among all these fopperies and affectations of learning, it is refreshing to hear the clear voice of common sense in the utterances of Béralde, the brother of the patient, Argan. Béralde says:

When a physician talks to you of rectifying the blood, of tempering the bowels, and the brain, of unloading the spleen, of readjusting the chest, of repairing the liver, of fortifying the heart, of reestablishing and conserving the natural heat, and of possessing the secret of prolonging life beyond the limits of old age, he is singing you the romance of medicine. But when you come to the test, you will find nothing of all that. These are merely fine dreams, which, when you wake, leave in your mind nothing but disgust at having believed them.

Molière's arraignment of medicine was severe but probably just. Gil Blas, you will remember, learned in a few words all of the art of healing that Dr. Sangrado thought it essential for him to know. Sangrado said:

Other physicians are of the opinion that the healing art is learned by the painful study of a thousand sciences as useless as they are difficult. My intention is to shorten this long road and to save you the trouble of studying physics, pharmacy, botany and anatomy. Know, then, that to cure all kinds of diseases nothing is necessary but to bleed your patients and to make them drink hot water. This is the great secret for curing all the illnesses on the earth. This marvelous secret, which I impart to you and which Nature has not been able to conceal from my profound observations, while she has remained impenetrable to my companions and colleagues, consists simply of two things, bleeding and hot water, both in abundance. I have nothing more to teach you. You now know the whole of medicine from root to branch, and if you follow my precepts, you will be as great a physician as I am.

Needless to say, so easy a road offered no temptation to stray, and Gil Blas followed it faithfully. His results he did not hesitate to record. He called his visiting list his "mortuary register" or "book of the dead." Rarely did he make a third visit to any patient. What with letting blood and filling them to the throat with copious drenches of hot water, he usually found on going to the house a second time that his patient was being dressed for interment. He made more widows and orphans than the siege of Troy. One day he addressed Dr. Sangrado:

"Sir," said he, "I call heaven and earth to witness that I follow your method scrupulously, but for all that, my patients go to the other world. They seem to insist on dying if only to discredit our remedies. To-day I came across two more setting out to be buried."

"My son," Sangrado replied, "about the same thing happens to me. Seldom do I have the satisfaction of having a patient recover after falling into my hands, and if I were not so sure of the principles that I follow, I should believe that my system is utterly wrong."

"If you will believe me," suggested Gil Blas, "perhaps it would be well to change our method. Let us try, if only out of curiosity, some chemical preparations, antimony for example. The worst that could happen could be no worse than we have proved with our bloodlettings and hot water."

"I would be glad to do so," replied Sangrado, "but for one thing. I have just published a book in which I laud to the skies the frequent use of bleeding and hot water. Shall I discredit my own work? Shall I afford this triumph to my enemies?"

Dr. Sangrado is a recognized example of many physicians of the seventeenth century. He represents those of a lower, as the physicians of Molière represent those of a higher, intellectual type during the period that produced them. The more one rises from the Sangrado type the more complicated becomes the system of practice and that of theory alike.

Ambrose Paré in his "Opera Omnia" records a favorite fomentation that he used containing sage, rosemary, thyme, lavender, chamomile, melilot and red roses, boiled in white wine. He says:

When I was in Turin, I found a surgeon famed above all the rest for his treatment of gunshot wounds, into whose favor I found a way to insinuate myself, that I might have the recipe of his balm, as he called it, wherewith he dressed these wounds. And he made me pay my court to him for two years before I could possibly get the recipe out of him. In the end, thanks to my gifts and presents, he gave it to me, which was this, to boil down, in oil of lilies, young puppies newly born and earth worms prepared with Venice turpentine. Then I was joyful and my heart made glad, that I had learned his remedy.

Montaigne, a contemporary of Paré, who also lived nearly into the seventeenth century, says in his essay on "The Resemblance of Children to Their Fathers":

I was the other day in company, where one of my fraternity [that is, one of those who like him were afflicted with stone] told us of a new sort of pills made up of a hundred and odd ingredients. It made us very merry and was a singular consolation, for what rock could withstand so great a battery? And yet I hear, by those who made trial of it, that the least atom of gravel will not stir for it.

The record and report of cases, as Bacon notes, were almost entirely neglected by the physicians of the time. Hospital reports were not yet, so far as I can discover, issued. In 1657, however, appeared a book by Dr. John Hall entitled "Select Observations on English Bodies, or Cures Empirical and Historical Performed on Very Eminent Persons in Desperate Disorders," from which much valuable information may be obtained as to the treatment of disease in the period we are considering. It is necessary to note that the rather pretentious title of the work was not chosen by Dr. Hall himself, who had been dead twenty-two years before the record of his cases was published by Dr. James Cook. Dr. Hall was the son-in-law of William Shakespeare, and was considered a very skilful and learned physician. The registration of his burial indicates this. The entry is simply in these words: "1635, Nov. 26. Johannes Hall, Medicus peritissimus."

This book is a record of his cases. One I shall reproduce, since it has the additional interest of recording an illness of his wife, Susanna, Shakespeare's daughter.

> Observation XXXIII.—My wife was troubled with the Scurvy, accompanied with pain of the Loins, Corruption of the Gums, Stinking Breath, Melancholy, Wind, Cardiac Passion, Laziness, difficulty of Breathing, fear of the Mother (i. e. of hysteria), binding of the Belly and torment there, and all of a long continuance, with restlessness and weakness. There was given this bolus: ℞ Electuary of Tamarinds ℥ ss; Cream of Tartar ʒ i. To the Back was applied,
>
> Emplastrum Oxycroceum, which freed her from pains of the Loins and Belly, Feby 9, 1630. The tenth day, taking cold, she had again miserable pain in her joints so that she could not lye in her Bed, insomuch as when any helped her, she cried out miserably; for which I used this Ointment:
>
> ℞ Capon's Grease, oil of Sweet Almonds, of Dill and Roses, each ℥ i. Mix them. After anointing, the foresaid Plaster was applied with good success, for she was quieter all night; but yet in the morning she was troubled with wind. Then I gave her of Sennurtus's Electuary, which is thus framed: ℞ The Conserve of the tops and leaves of Scurvy Grass ℥ iii; the flowers of Bugloss, Clove, Gilly-flowers and, Damask Roses, each ℥ ss. The flesh of Candied Nutmegs, Citron Pills, candied and cut. each ℥ i; Honey of Juniper Berries ʒ iii; Confectio Alkermes ʒ ss; Syrup of Cinnamon, Syrup of Scurvy Grass or that of Forestus, sufficient to make an electuary, to which was added Oil of Sulphur, sufficient to sharpen it. For the constipation of the Belly was used this suppository: ℞ Honey ℥ i; Spec. Hiera Picra ℈ ii (this was aloes and canella); Troch. Alhand ℈ ss; Cummin Seed ℥ ss. Make a long suppository. For the cardiac passion was used Elect. Pleresarchon, Dose ℥ ss fasting. Yea, at any hour it was used, drinking the following stilled wine after it. ℞ Fumatory, Brookline, Water-cresses, Scurvy Grass, Betony, Agrimony, Harts-tongue, each M ss (i. e. one-half manipulus or handful): Bark of Capparis Ash, Tamaris each ʒ ss: Roots of Elecampane, Polipody, each ʒ iii: Madder Liquoris, Calamus Aromaticus, Eringoes each ℥ ss: Yellow Sanders, Red Coral, Shavings of Ivory, each ʒ vi; Cloves, Mace, Cinnamon, Ginger each ʒ iii; Ceterach, Flowers of Broom, Rosemary, Marigolds, Epithyme each P. i (p = pugillus, an eighth part of a maniplus or handful); Juniper Berries ℥ i: Steel prepared according to Crato ℥ iv; White Wine lb. viii, etc. [Then followed minute directions about boiling and stirring and straining.] Dose is two to three spoonfuls in the beginning, which may be increased if there be need. And by these she was cured.

To-day the treatment would be lime-juice and spinach with a mouth wash of potassium chlorate.

The orvietanum, theriaca, or venice treacle contained sixty-one different ingredients, some of which were mutually antagonistic and many therapeutically incompatible.

Those were halcyon days for the apothecaries. Dr. Gideon Harvey, physician-in-ordinary to his majesty Charles II, wrote in 1676, in "The Family Physician and the House Apothecary," some comments on their profits from drugs:

> I have oft seen bills of apothecaries risen to 20 pounds and sometimes 30 pounds in the time of a fortnight; I have known an apothecary's bill so extravagant that the sum at the bottom of his account amounted to 50 pounds in the space of thirty days. Not long since an apothecary of our suburbs brought in bills to nine patients for less than three-quarters of a year's physick, amounting to fifteen hundred pounds.

This is a sum almost equivalent in purchasing power to $25,000 to-day, and would amount to about $1,000 a month per patient. George Butler charged in his bill (in 1633) $7.50 apiece for some pills that he put up for Mrs. Style who had a sore leg. She took three and died during the night. Goodall gives many similar instances in "The Physicians of London," 1684. A Dr. Tenant took the precaution of dispensing his own medicine—a degrading thing for a physician in the seventeenth century to do—and in his bill "he charged for one pill at six pounds, and an apozeme (decoction) at the same price."

RIVAL CLAIMANTS TO HARVEY'S DISCOVERY

It is well known that others before Harvey had worked in the same field and had had stray gleams of the truth without attaining to a full comprehension of it. This list does not, speaking strictly, include the name of Vesalius, and yet the spirit that Vesalius invoked was of far-reaching importance. It extended beyond the realm of anatomy and laid hold of the true scientific method. It consisted in the recognition of the fact that science must be free, must disclaim tradition, and throw off the chains of authority. Before Vesalius came, the students in anatomy studied not the human body but Galen, as the students in theology studied not the Bible but St. Thomas Aquinas. Martin Luther was still living when Vesalius' great work on "The Structure of the Human Body" appeared in 1543. It is not likely that he ever saw a copy of it, and he would probably have had little interest in it if he had seen it; and yet what Luther had accomplished in freeing the individual conscience from the shackles of tradition, Vesalius almost emulated in freeing science from the authority at once of Galen and of the church. To him all science owes a debt of profound gratitude, for as Luther was the father of Vesalius, so Vesalius was the father of Harvey.

Before Vesalius, then, the teaching of anatomy consisted in the discovery of new meanings and new interpretations of Galen, and rarely in actual dissections. Vesalius brought to anatomy the practice of careful observation, and established the method on which physical science has since his time advanced in its uninterrupted course—the method of dissection as opposed to interpretation, of observations as opposed to authority. He raised aloft the book of Nature in place of the book of Galen, and opened up a new path in scientific work. "On the publication of the Fabrica, the pall of authority was once ar [illegible] ren [illegible] His results were impugned [illegible] zori [illegible] yers and rivals, bu [illegible] the method that he had introduced. The authority of Galen ceased to be invoked as the ultimate test of fact." The era of experimental science, thus inaugurated in 1543, followed the principle of induction which is now known to have guided the reasoning of men from primitive time. That principle Bacon merely formulated and systematized. That too was a great service, as it then became a conscious and understood process of reasoning, a weapon of thought and the key to modern science. It is true, as I have remarked, that before Vesalius, medicine had been a branch of philosophy and that afterward it became one of the physical sciences; but it is also true that with him the method of physical science had its origin.

To realize the importance of Harvey's theory, which opened up the channel to physiology and modern medicine, sweeping away the barrier that obstructed at its source the stream of medical science, we must for a moment examine the belief thus effectually destroyed. Foster[6] summarizes this as follows:

> The parts of the food absorbed from the alimentary canal are carried by the portal vein to the liver and are there converted into blood; here also the blood becomes endued with the natural spirits. From the liver it passes by the vena cava to the right ventricle, whence some of it passes through innumerable pores, like a sieve and invisible after death, to the left ventricle. As the heart expands it draws from the lungs, through the pulmonary vein, air into the left ventricle. This air, with the blood which has percolated into the left ventricle from the right, becoming subjected to the action of the innate heat of the heart, which is the source of animal heat, is elaborated into the "vital spirits" which flow from the left ventricle through the arteries to all parts of the body, flowing and ebbing through the same vessels, and having no connection with the blood in the veins save through the pores between the ventricles. Similarly the blood in the veins, bearing the "natural spirits," flows and ebbs from and to the right ventricle, passing into the lungs through the pulmonary artery and to all the parts of the body. The vital spirits produced in the left ventricle from the air and the few drops that enter from the right ventricle, are of a higher and more elaborate development than the "natural spirits" with which the venous blood is endued. There is still a third elaboration, of "vital spirits" into "animal spirits" in the brain, which, without any admixture of blood, are carried in a similar ebb and flow along the nerves, which were thought to be hollow during life and to close at death.

Such, briefly, was the philosophic conception of the circulation that with various glosses (among which may be mentioned a dispute as to the time of the ebb and flow, many physicians believing that the blood flowed all day and ebbed at night) and interpretations, held the scientific mind in bondage for many centuries. To this ebb and flow the term circulation could in no strict sense be applied. It was not a circulation but rather a passing of the blood to and fro. It seemed necessary to describe in detail, however briefly, this long-prevalent belief, since on an indistinct comprehension of it has arisen some uncertainty as to Harvey's right to the title of discovery of the circulation. On the words of Brutus to Portia,

> You are my true and honorable wife,
> As dear to me as are the ruddy drops
> That visit my sad heart,

the claim was founded that Shakespeare had divined the truth before Harvey. This claim was made by Thomas Nimmo, and was published in the second volume of the "Shakespeare Society's Papers." It is of course worthy of no consideration whatever.

The history of science presents no more interesting picture than the manner in which the way was smoothed to Harvey's discovery. Robert Boyle, a friend of Harvey and an eminent scientist himself, since he discovered the law of elasticity of the air, narrated the circumstances that led up to Harvey's discovery. He says:

> I remember that when I asked our famous Harvey, in the discourse which I had with him a little while before he died, what were the things that induced him to think of a circulation of the blood, he answered me that when he took notice that the valves in the veins of so many parts of the body were so placed that they gave free passage to the blood toward the heart, but opposed the passage of the venal blood the contrary way, he was invited to think that so provident a cause as Nature had not placed so many valves without design; and no design seemed more probable than that, because the blood could not well, because of the intervening valves, be sent by the veins to the limbs, it should be sent by the arteries and return through the veins, whose valves did not oppose its course at all.

The first step, however, was taken by Vesalius, and touched on the invisible pores that led a portion of the blood directly from the right ventricle to the left. In describing the heart he says:

> The septum of the ventricles, the thickest substance of the heart, abounds with little pits impressed on it on both sides. None of these can be perceived to penetrate the septum, however, and we are compelled to wonder at the handiwork of God, if it be true that the blood sweats from one ventricle to the other through passages which cannot be detected by the eye.

Vesalius thus dared to doubt the prevalent belief. The next step was taken by Servetus who notes that:

> There is no passage through the septum of the heart, but the blood is driven by a long passage through the lungs. It is in this passage rendered light-colored and from the pulmonary artery is poured into the pulmonary vein. Here it is mixed with the inspired air and by expiration is cleansed from its fumes. And so at length it is drawn in, a complete mixture, by the left ventricle through the diastole, stuff fit to become the "vital spirits."

The size of the pulmonary artery convinced him that it served some other purpose than the mere nutrition of the lungs, and the passage given shows that he had grasped something of the truth as to the pulmonary circulation. But the full significance even of the pulmonary circulation was not seen by Servetus. He merely intended to correct the opinion of Galen, and considered that only that portion of the blood which Galen had believed entered the left ventricle from the right by a process of transudation was what the pulmonary artery transmitted to the left ventricle through the pulmonary vein, while the rest of the blood fetched its round through the venous system every twenty-four hours. This was a step forward; but it was by no means the final recognition of the truth, even as to the pulmonary circulation.

The fate of Servetus was a sad one. The passage just quoted is from his "Christianismi Restitutio" a work on popular theology. He had written an earlier book on "The Errors in the Doctrine of the Trinity," for writing which he barely escaped the clutches of the Inquisition; while for this, his second work, he was seized and prosecuted by Calvin and burnt at the stake in 1553. He died at the age of 42 the Giordano Bruno of Calvinism.

Colombo, who was the professor of anatomy in Rome when he died in 1559, left in manuscript a book which appeared after his death, in which he appropriates the work of both Vesalius and Servetus without any addition of note to either. He differs from Vesalius in one point however, which alone would invalidate any claim he might have. "He opposed Vesalius in regard to the origin of the vena cava, asserting that it takes its rise from the liver, and not from the heart as the great reformer in modern anatomy had mentioned."[7] This is taken directly from Hippocrates' own words. In his book on "Aliments," he has said that "the root of the veins is the liver and the root of the arteries is the heart." Yet Colombo's work on "Anatomy" was of service in that it gave currency to the exposition by Servetus of the pulmonary circulation. In 1571 the "Quaestiones peripateticae" of Caesalpinus appeared. In this book he touched the very center and secret of the circulation—he touched it, but he withdrew his hand too soon. Not even to him was the full theory of the circulation revealed. His words are full of interest:

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[6] Foster, Sir Michael: Lectures on the History of Physiology, Cambridge, 1901.

> Of the vessels ending in the heart, some send into it the material which they carry, for instance, the vena cava into the right ventricle and the pulmonary vein into the left; some carry material away from the heart, as the aorta from the left ventricle and the pulmonary artery, nourishing the lung, from the right. To each orifice are attached little membranes (valves) whose function is to secure that the orifices leading out do not let the blood in, and that those leading in do not let it out. It follows that when the heart contracts, the arteries are dilated and when it expands they are constricted. For if the arteries were dilated and constricted at the same time with the heart, it would follow that they would be dilated at the time when the material filling them from the heart was denied them, and constricted at the time when material was flowing into them from it. But this is impossible. They therefore dilate and contract in alternation with the action of the heart.

How fine and clear this is! And it is the earliest description of the heart's action in "emptying itself during systole into the aorta and the pulmonary artery, and filling itself during diastole from the vena cava and the pulmonary vein."

Twenty-two years later, in 1593, another book entitled "Quaestiones Medicae" appeared from the hand of the same writer. In this he approaches still nearer the truth without fully perceiving it. In it he calls attention to the fact that veins when ligatured swell on the far side and not on the near side of the ligature. "But exactly the contrary ought to happen," he says, "if the movement of the blood and the spirits took place in a direction away from the heart to all parts of the body. When a channel is interrupted, the flow beyond the interruption ceases; the swelling of the veins therefore ought to be on the near side of the ligature."

"Why isn't it?" he seems to ask himself. Indeed he gives the answer, but he does not fully comprehend it when given. The explanation he cannot yet make. The circle is not complete. It almost seems to us that he has given the explanation and as if the circle of the blood were complete, but that is because we look through our own eyes and not through those of Caesalpinus. He betrays himself at the very moment when we expect the final word of full comprehension. He continues:

> Now when we are awake the movement of the native heat takes place in the outward direction, but when we are asleep it takes place in the contrary direction toward the heart. We must therefore conclude that when we are awake a large supply of blood and of spirits is conveyed to the arteries and thence to the nerves. When we are asleep, however, the same heat is carried back to the heart, not by the arteries but by the veins. For the natural entrance into the heart is furnished by the vena cava, not by the arteries. For in sleep the supply of native heat to the arteries is diminished, but it bursts into them with vehemence when we wake, while the veins are more swollen when we are asleep and shrink when we wake, as any one may see who watches the veins in the hands. When we are asleep, the native heat passes from the arteries by that communication of orifices which we call anastomosis into the veins and so to the heart.

While I have somewhat condensed the statements of Caesalpinus in these quotations, yet I have been careful to leave every argument and every description, unshorn of its strength, in all its directness and in all its logical force, as fully as an advocate could have done in his behalf. But when all is considered, it is too little to establish his title. He apprehends the circulation, but he does not comprehend it. He sees the riddle but he does not solve it. He meets the truth full in the face, but he passes it by without recognition. He translates all the words, but he cannot put the sentence together.

And all this is because, while Caesalpinus seemed to hate the very name of Galen, while he declared himself willing to "maintain that everything that Galen affirmed was wrong and that everything that Galen denied was right," while he fancied that he had entirely emancipated himself from the control of the traditions of the ancient fathers in medicine, he yet saw through Galen's glasses, he was yet in the gall of bitterness. Dr. Thomas Willis, in his preface to the works of Harvey, says that the later meaning is apt to be read into the earlier words, and does not really represent the thought that was in the writer's mind as he wrote, but that which is in our minds as we read; moreover, "The world saw nothing of the circulation of the blood in Servetus, Colombo, Caesalpinus or Shakespeare, until after William Harvey had taught and written."

Fabricius, a younger contemporary of Caesalpinus, had tried to fathom the purpose of the valves in the veins. He said:

> In my opinion they are formed by Nature in order that they may to a certain extent delay the blood, and so prevent the whole of it flowing at once like a flood either to the feet or to the hands and fingers, and becoming collected there. For this would give rise to two evils; on the one hand the upper part of the limbs would suffer from want of nourishment, and on the other the hands and the feet would be troubled with a continual swelling. In order therefore that the blood should be everywhere distributed in a certain just measure for maintaining the nourishment of the several parts, these valves of the veins were formed.

These words of Fabricius, the greatest anatomist of his time, show how little impression Caesalpinus had made, and how far his pupils were from understanding the truth concerning the circulation. That was because he did not himself understand it.

A claim has also been entered for the credit of the discovery of the circulation in the name of Paolo Sarpi, but such a claim seems impossible to substantiate. Sarpi was an intimate friend of Fabricius and of Harvey as well, and of Galileo and Lord Bacon and many other men who were eminent during the early years of the seventeenth century. His name is perhaps as illustrious as that of any of his contemporaries, but his laurels were not won in the field of the physical sciences, and the validity of the claim that has been brought in his name, as anticipating the discovery of Harvey, is not capable of demonstration. Sir Michael Foster says:

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[7] Willis, Thomas: Life of Harvey.

His claim is urged by Cornelius Consentinus, on whose statement alone it rests. Consentinus said that Sarpi, who was indeed versed in anatomy as in all the knowledge of his time, left among his manuscripts a theory of the circulation that proves his prior perception of it; and that he disclosed the fact to Fabricius who in turn informed his pupil Harvey. But Sir George Ent narrates the story differently. He says that the Venetian ambassador brought with him from London to Venice a copy of Harvey's book, a part of which Sarpi transcribed into his own note-book without any thought of claiming the credit of the discovery. This note-book, after his death, was found among his papers, and a claim entered in his name which he himself would never have sanctioned.

Candor, however, constrains us to remark that there is a strange and disquieting anachronism in this statement, clear and conclusive as it seems. Sarpi died in 1623, and Harvey's book did not appear until 1628. If to Harvey were granted the privilege of posthumous prayer, and if he continued after death to take an interest in the little triumphs of humanity, he might well ask to be delivered from the friendly offices of Sir George Ent and Sir Michael Foster. From erroneous premises to deduce a conclusion that shall be true, indicates the commission of a fatal fallacy, and constitutes a sharp attack on the truth itself. At the least, its detection suffices instantly to disable the argument. Not on false witnesses and an inaccurate chronology must be based the verdict in the case of Sarpi, but on the inherent improbability of his claim, on its lack of contemporaneous influence, and on the fact that it was never substantiated at the time, when the outcry against Harvey was so great that nothing was left undone that malice could suggest to invalidate his title to a discovery that envy sought to disparage, and enmity labored to annul.

We have thus examined the pretensions of all the claimants who are entitled to consideration except one, and his claim connot be examined, although it is in point of time the earliest of all. While a Christian emperor yet occupied the throne of Constantinople, Leonardo da Vinci was born near Empoli, in Tuscany. He was a man of most remarkable wisdom. There were few fields of learning in which he was not eminent. His "Last Supper" is considered one of the two greatest paintings in the world; his "La Gioconda" is the most famous canvas that was ever painted. In mathematics, botany, anatomy, fortifications, geology and engineering he was intimately skilled, and in some of them was centuries ahead of his time. He anticipated Bacon's recognition of observation and experience as the basis of all reasoning in science; he explained the theory of mechanical forces; many years before Copernicus he was acquainted with the annual motion of the earth; he described the camera obscura, the use of the iris, the mechanism of flight and the nature of colored shadows. He kept copious note-books, most of which have never been examined. They yet exist in manuscript, and the character of his claim to have anticipated Harvey must await the day when these old manuscript note-books may be deciphered. There is some hope that when that day comes, our knowledge of the mechanics of aviation will become illuminated, but there is no probability that another chapter will be added to the dispute concerning the circulation.

Such are the various claims that seem to threaten, however remotely, the title of William Harvey, and we have found them all insufficient to raise even a presumption of doubt as to its validity.

(To be continued)

DIFFERENTIAL DIAGNOSIS AND TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS [*]

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In 1906 the New York Board of Health supplied antimeningitis serum for use subcutaneously in cases of epidemic cerebrospinal meningitis, but it was found to be of slight avail and its preparation and use were discontinued. In July, 1910, after Jochmann, Flexner and Wassermann had proved its value when used intraspinously, the Rockefeller Institute gave the Health Department two horses immunized against the meningococcus, and a generous supply of antimeningitis serum. Since that time the Health Department has prepared it and offered the services of a consultant to every physician reporting a case of meningitis not in a hospital. In that way we have seen 247 cases, at least half of which were reported as epidemic cerebrospinal meningitis and the rest either as meningitis, kind not designated, or as tuberculous meningitis.

DIAGNOSIS

Table 1 shows what a large percentage of error there must be in the usual statistics of meningitis and how few cases of epidemic cerebrospinal meningitis there are in New York.

TABLE 1.—FINAL DIAGNOSIS OF CASES SEEN

Diagnosis	No. of Cases	Condition Suggesting Meningitis
Epidemic cerebrospinal meningitis	48	
Tuberculous meningitis	75	
Infantile paralysis	37	
Streptococcus meningitis	9	
Pneumococcus meningitis	3	
Influenzal meningitis	2	
Pneumonia	19	Rigidity of neck and Kernig sign.
Gastro-enteritis	5	
Typhoid	3	
Hysteria	1	
Acidosis	1	
Osteomyelitis	1	
Simple neurosis	1	
Tetany	3	
Serous meningitis	2	
Schönlein's purpura	1	Eruption.
Eczema	1	
Erythema multiforme	1	
Measles	1	
Typhus	3	
Syphilis of brain	1	Mental condition.
Cerebral endarteritis	1	
Miliary tuberculosis	1	
Encephalitis	1	Palsy.
Peripheral neuritis	1	
Internal hydrocephalus	1	Bulging fontanelle.
Toxic conditions	1	Convulsions.
Tetanus	1	
Diagnosis uncertain	19	
Pericarditis	1	
Normal child	1	

The cases of infantile paralysis that we have seen have been of the encephalitic rather than the myelitic type.

The streptococcus, pneumococcus and influenzal cases could not have been differentiated except by lumbar puncture, though the history of middle-ear disease, injury such as fracture of the skull, operation on the nose, etc., often made us suspicious.

In the cases of pneumonia, gastro-enteritis, hysteria, simple neurosis, acidosis, typhoid, osteomyelitis and serous meningitis, the rigidity of the neck, and in some cases a Kernig sign was probably what caused the physician to report the case as meningitis. In the case of Schönlein's purpura, one of the cases of typhus, and the eczema, erythema multiforme and measles cases, the eruption was largely responsible for the diagnosis of meningitis. Two of the cases of typhus had already been diagnosed and we were asked to do a lumbar puncture in order to relieve pressure. The mental condition seemed to have suggested meningitis in the cases of brain syphilis, endarteritis and miliary tuberculosis. The meningismus coming early, before there are any signs of pneumonia, is the most difficult of all these conditions to distinguish from true meningitis. Often by the time we reach the case the real diagnosis is apparent. In view of the mistakes made in diagnosis I shall give a brief summary of the main points to be considered.

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[*] From the Research Laboratory of the New York City Department of Health.

[*] Read before the Internal Medicine Section of the New York Academy of Medicine, Nov. 7, 1912.

Cases of epidemic cerebrospinal meningitis and infantile paralysis usually give a history of a sudden onset as against a slower onset in tuberculous meningitis. The patient's mental condition is generally good in meningococcus meningitis unless it is a fulminating case. In tuberculous meningitis there is often a history of irritability followed by increasing stupor from which it is often impossible to arouse the child. In infantile paralysis the patient is often apparently stuporous, but he can be roused and made to answer intelligently. Patients with epidemic cerebrospinal meningitis show marked rigidity of the neck; tuberculous patients are apt to have slight or moderate anteroposterior rigidity, but none laterally.

In infants the rigidity of epidemic cerebrospinal meningitis is so easily overcome as to make one often doubt its existence; but when the infant is turned on the side, the head is markedly retracted. We have found Brundinski's and MacEwen's signs much more useful than Kernig's. Brundinski's consists in the flexion and eversion of the legs and arms when an attempt is made to flex the head on the chest, and the drawing up of one leg when the other is passively flexed. MacEwen's is a change from the normal in the percussion note over the lateral ventricles, due to increased intraventricular pressure.

The fever is higher in infantile paralysis and epidemic cerebrospinal meningitis than in tuberculous meningitis. In cerebrospinal meningitis it runs an irregular course. In infantile paralysis it usually stays up only a short time and falls by lysis. Paralyses are not common in meningococcic meningitis, are often present one day and gone the next in tuberculous meningitis and usually improve slowly in infantile paralysis. Convulsions occur in all three conditions. Projectile vomiting is not uncommon with tuberculous meningitis

These are the general points of differentiation, but sometimes it is impossible to be sure clinically with which of the three conditions we are dealing. The surest means is by the examination of the spinal fluid, but this is not always certain. Epidemic cerebrospinal meningitis in almost all cases gives a cloudy fluid from which the infecting organism can be isolated. Both tuberculous meningitis and infantile paralysis give a clear fluid under increased pressure. If the tubercle bacilli can be found in the stained sediment after centrifugating the fluid, the diagnosis is easily made. Dr. Hemingway made a record in finding tubercle bacilli in cerebrospinal fluids at the Babies' Hospital, but there repeated punctures were done and sometimes a search of several hours was necessary. We rarely make more than one puncture, and seldom have more than an hour to spend searching. At the Babies' Hospital fluids were allowed to stand until a fibrin web formed. Ours are usually shaken a good bit before they reach the laboratory and we often have to centrifuge them at once. We usually trust to guinea-pig inoculation for the final diagnosis when we do not find the bacilli.

Table 2 shows the characteristics of spinal fluids.

TABLE 2.—CHARACTERISTICS OF SPINAL FLUIDS

	Pressure	Amount, c.c.	Appearance	Cytology	Bact.	Alb.	Glob.	Animal Inoc.
Normal	Normal.	5-10	Clear.	Very few cells.	Sterile.	±	—	Negative.
Meningismus	Increased.	10-100	Clear.	Very few cells.	Sterile.	±	—	Negative.
Infantile paralysis	Increased.	20-100	Clear: sometimes slight fibrin web.	Early polynucleosis; later lymphocytosis up to 95 per cent.; endothelial cells.	Sterile.	+-++	+-++	Negative or pneumonia.
Tuberculous meningitis.	Increased.	30-120	Clear: fibrin web.	Lymphocytosis up to 95 per cent.	Tubercle bacilli.	++-+++	++-+++	Tuberculosis in 4 weeks.
Epidemic cerebrospinal meningitis	Increased.	5-120	Cloudy.	Polynucleosis up to 98 per cent.	Meningococcus.	++-++++	++-++++	
Meningitis due to other organisms.	Increased.	20-100	Cloudy.	Polynucleosis up to 98 per cent.	Infecting organisms.	++-++++	++-++++	

TREATMENT

The treatment of epidemic meningitis may be divided into prophylactic, specific and general. The prophylaxis consists in quarantining cases and looking for carriers. Last spring we were called to see a 6-months-old Greek baby. The mother had come over in the spring of 1911 at the time when there was an epidemic of meningococcic meningitis in Greece, and the baby was born six months later. A culture from the mother's nasopharynx showed abundant meningococci. She had never had meningitis and did not develop it. There was no way of being positive that the baby was infected by her for she may have acquired the meningococci from the baby; but it seems probable that she was the carrier.

Now, when we go on cases, we make cultures from the throats of those coming in contact with the patient. We have not yet had sufficient experience in ridding carriers of their meningococci to know what is the best means, but we hope to find out this winter. Dr. Sophian found that the injection of meningococcic vaccine was effective. Hachtel and Hayward in Baltimore used a spray of antimeningitis serum effectively. In some experiments which Miss Bertha Warren and I made at the Research Laboratory last winter we found that of the usual disinfectants used in the f [illegible] rol in a stren [illegible] om 15 to 25 per cen [illegible] ost [illegible] ectiv [illegible] meningococci in [illegible]

The specific [illegible]
injection of a [illegible]

the serum if we find a cloudy fluid on lumbar puncture, because if the disease is meningococcic meningitis the sooner the serum is injected the better, and it does no harm even if some other organism is the cause of the trouble. We always warm the serum and allow it to run in slowly by gravity. The amount administered depends on the amount withdrawn; we usually inject serum a little less in amount up to 40 c.c. than the cerebrospinal fluid withdrawn. Using change in blood-pressure as a guide to the dose, as suggested by Dr. Sophian, is probably a good thing, especially for those who have had little experience in administering the serum. I do not like to give a definite opinion about its value until I test it further. Most of our work is done in tenements with no one to help but the attending physician, so that its use is usually impracticable for us.

In an ordinarily severe case we do a lumbar puncture, draw off all the fluid we can and inject serum every day for four days. Further injections depend on whether the fluid is sterile or not, the patient's temperature, and his general condition. The rigidity of the neck is frequently late in disappearing, and if the patient is improving in every other way that does not disturb us. Dry taps occur now and then without disturbance of the communication between the meninges of the brain and cord. We had a case in Brooklyn in which after the first two or three times we repeatedly obtained no fluid; and yet 10 c.c. of serum ran in readily. The patient, a 6-months-old infant, seemed moribund when first seen, but recovered completely. We have had a serum rash in but one case. For cases that threaten to become chronic we prepare autogenous vaccine. Whether or not it helps we shall not be able to say until we have tried it longer.

Patients who develop basic meningitis, in which the communication between the meninges of the brain and cord is cut off, have never recovered in our experience. We have sent several such into the hospitals, and brain puncture was done; but it has been of no avail. Dr. Sophian had the same experience in Texas during the epidemic last spring.

For general treatment we always recommend the administration of hexamethylenamin (urotropin) because experiment has shown that after its administration formaldehyd is found in the cerebrospinal fluid. We advise the use of sedatives when a patient is in much pain or very restless, in order that enough sleep may be obtained. The diet should not be too limited, for the duration of the disease may be prolonged. The conjunctivitis sometimes present is best treated with argyrol. The bladder must be watched, for many cases develop retention. Meningococci are sometimes found in the urine, and this must be remembered in ordering the hygiene of the sickroom.

Before the use of the serum the mortality averaged 75 per cent. Our mortality since using the serum has been about 50 per cent. Six cases developed basic meningitis and five cases were fulminating. During an epidemic basic and fulminating cases do not occur in such a large proportion. Several patients we did not see until late in the disease, and many were receiving poor care as far as nursing went. Dr. Sophian went to Texas for the New York Health Department during the epidemic last spring, and he had a mortality of 28 per cent. in the hospital. Dr. Flexner's analysis of the results in 1.300 cases agrees very well with this. The prognosis is better for children than for adults.

AN UNUSUAL CASE OF LEUKEMIA

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The following case of leukemia presented several features of unusual clinical and pathologic interest. Like many cases of leukemia, its type was very irregular and in the absence of any definite knowledge of the etiology of this disease, its classification, if any be attempted, provides a wide field for discussion.

History.—The patient was a well-developed, robust man, aged 23, a hotel waiter, who had come under observation for the early secondary stage of syphilis eighteen months before his death. The inguinal nodes at this time were slightly swollen, but the spleen and liver were not apparently enlarged. The urine showed no special change. His blood was not examined at this time. He had suffered from gonorrhea five months previous to his coming to the hospital, but denied any other illness before this. There was no history of any previous enlargement of the lymph-nodes. He had originally come from Greece but had been in the United States for seven years. His parents were both alive and healthy. He had one brother who also gave a history of having acquired syphilis recently. In this brother the cervical and axillary nodes had recently become somewhat enlarged, and the spleen and liver were both slightly larger than normal. He had not, however, noticed these himself. The blood also showed practically the same picture as did the patient's in the early stages. He returned shortly afterward to Greece, so that the further course of his disease could not be traced. The patient remained in the hospital for five weeks, and was treated with intramuscular mercury injections. These were continued at his home for six months, and for the next four months he took internal mercury treatment.

Examination.—A few weeks after this time, about six months before his death, the patient reentered the hospital, complaining of swelling of the nodes of his neck, which had recently commenced. The axillary and inguinal nodes were also found to be slightly enlarged. The spleen extended 3 inches below the costal margin. The liver also was slightly enlarged, its lower border being palpable 3 inches below the costal margin in the right midclavicular line. His blood-serum gave a positive Wassermann reaction and the blood-count at this time showed marked anemia:

Red blood-corpuscles	3,400,000 per c.mm.
Hemoglobin	55 per cent.
Leukocytes: Differential count	52,000 per c.mm.
Polymorphonuclear leukocytes	10.5 per cent.
Transitionals-polymorphonuclears to myelocytes	3.4 per cent.
Myelocytes (finely acidophil granular)	5.6 per cent.
Eosinophil polymorphonuclears (coarse granular)	1 per cent.
Eosinophil myelocytes (coarse granular)	1.3 per cent.
Small lymphocytes	11.2 per cent.
Medium-sized lymphocytes	30.7 per cent.
Large lymphocytes	19.3 per cent.
Large mononuclears, clear cytoplasm, vesicular nucleus	8 per cent.
Medium-sized mononuclears, finely basophil granular	1 per cent.
Large-sized mononuclears, finely basophil granular	2.9 per cent.
Mast cells	0.7 per cent.
Normoblasts (compared with leukocytes)	4.1 per cent.
Megaloblasts (compared with leukocytes)	0.3 per cent.

The patient's weakness increased rapidly. The cervical nodes, as well as those in all the lymphoid situations throughout the body, became rapidly larger, and breathing through the nose became progressively more difficult. He developed effusions, which had frequently to be removed, from his left pleural cavity, and occasionally also from the right. The spleen increased considerably in size and the anemia became much more pronounced. The leukocytes in the blood varied from 30,000 to 73,000, a rather larger number being present just before death. The relative proportions remained about the same. The eosinophils, however, both polymorphonuclears and eosinophils, and the neutrophil myelocytes became slightly increased, the neutrophil polymorphonuclears slightly reduced, while the large, finely basophil granular mononuclears rose finally to 8.9 per cent. The number of normoblasts remained proportionately about the same, but the megaloblasts had increased to 2.7 per cent. on the day of the patient's death. The red blood-corpuscles had become progressively reduced, as also had the hemoglobin, the color-index, however, being always under 1. No malaria parasites were found in the blood at any time. The temperature had a slight daily variation, as an average rising in the evening to between 99.5 and 100 F., but sometimes reaching 100.8 as a maximum and 97.6 as a minimum. Various medications, including arsenic, mercury and iron, were used with no apparent improvement. The patient died in an extremely asthenic but well-nourished condition.

Necropsy.—A few hours after death, the lymph-nodes all over the body were found greatly enlarged, firm, elastic, more or less discrete, and of a pink color, although some were dark purple from hemorrhage. In the axillae and groins some of these had attained the size of a hen's egg. Microscopically, the nodes were shown to be enlarged, not only by infiltration of cells from the blood, but also by an active proliferation locally.

An opening into the thorax revealed several large lymph-nodes in the anterior inner part of the right vault of the diaphragm. One large hemorrhagic node was situated at the inner anterior part of the left vault, close to the attachment of the pericardium. The outline of the pericardium was regular and its outer surface smooth; on section, it was found to be enormously thickened. Posteriorly it measured 5 mm. in the middle and 1 cm. in the upper part. The lower portions in the region of the apex were only moderately thickened. Anteriorly, however, between the levels corresponding to the fourth rib and the upper border of the manubrium sterni, there was a special thickening, about 4 cm. in diameter. This was in direct continuity with the pericardium and extended below the level of the fourth rib, gradually becoming thinner toward the apex, where it was only about 3 mm. in thickness. This extensive pericardial thickening was firm, apparently fibrous and of a pale yellowish-pink color. In its upper part it included several small lymph-nodes, into some of which there were hemorrhagic extravasations. The bronchial nodes were considerably larger, some of them also being dark red from hemorrhage. Microscopically, this condition in the upper part of the pericardium was found to be composed for the most part of fairly dense fibrous tissue, which included very frequent, rather ill-defined, lymphoid foci which resembled closely the structure of the hyperplastic infiltrated lymph-nodes in other situations. This mass did not correspond to a tumor growth, but seemed to be the result of hyperplasia of the anterior mediastinal nodes and most probably also of the thymus. No Hassall's corpuscles, however, were found. In addition to this lymphoid hyperplasia, the thickening around the pericardium was associated with an extensive chronic inflammatory matting, and leukemic infiltration, also, to some extent had assisted in the process. The inner surface of the pericardium was smooth and there was no excess of fluid in the pericardial sac. There were no evidences of tuberculosis in the nodes throughout the body or in the pericardial thickening. Nor were there any signs which made syphilis in any way a certain factor; no spirochetes were found in any of the tissues examined in various situations throughout the body. The left pleural cavity contained a large amount of blood-stained fluid. The pleura showed a chronic thickening due, as seen microscopically, to leukemic infiltration and chronic inflammation. The heart was dilated and flabby.

The spleen weighed 900 gm. and was 21 cm. long by 14 cm. wide. It was of a dark reddish color and moderately firm. The malpighian bodies were markedly enlarged, appearing as white spots through the section. Microscopically, the perivascular spaces were considerably distended by accumulation of cells. The sinuses also were frequently almost filled, for the most part with small mononucleated cells. All the types seen in the blood were to be observed in these sinuses. There seemed, however, to be a very considerable proliferation of the lining endothelium. In some of the cells of this proliferation there were apparent distinct evidences of new formation of nucleated red blood-cells. Some of the endothelial cells also seemed to be the seat of a deposit of coarse eosinophil granules, at first, apparently deposited around or on one side of the nucleus. These coarsely granular cells often attained considerable size and all possessed a homogeneous small darkly stained nucleus. Some of them could be observed in process of direct division, and some also could be observed in the perivascular tissues. They never, however, assumed quite the appearance of the eosinophil myelocytes as observed in the peripheral blood.

The liver was moderately enlarged, weighing 2,150 gm. and, microscopically, showed a moderate deposit of hemosiderin pigment in the liver cells. and a considerable infiltration in the portal spaces, consisting mostly of lymphocyte-like cells, although the other types seen in the blood were also represented. Many of these cells were situated perivascularly, but the capillaries themselves frequently were crowded with nucleated cells. To some extent, in the perivascular spaces, but more in the interior of the vessel, there could be observed a relatively large number of coarsely granular eosinophil cells, mostly small, frequently appearing attached to the vessel wall, and containing small, round, homogeneous, darkly stained nuclei, which were similar to those observed in the spleen. The lining endothelium of the capillaries. in isolated places in the interior of the lobules, also showed considerable proliferation, some of this apparently assisting in the production of leukocyte types, such as were seen in the blood. To a small extent also the formation of nucleated red blood-corpuscles could be determined.

The kidneys were extremely enlarged, the left weighing 700 gm., the right 750 gm. They were, for the most part, pale, yellowish-pink and contained numerous small hemorrhages, chiefly in the cortex. Microscopically, the enlargement was due, not only to the hemorrhages, but also to a very extensive leukemic infiltration. In the perivascular spaces, besides a large number of small, mononucleated cells, small clumps of relatively large cells could frequently be observed, having some of the appearances of myelocytes. and generally containing numerous fine acidophil granules. Some of these myelocyte-like cells, although not quite resembling any type found in the peripheral blood, could also be seen isolated in the kidney capillaries. The intestines showed no specially abundant aggregations of lymphoid tissue. The bone-marrow was unusual for a case of leukemia, being dark red in color; in several situations examined it was almost wholly erythroblastic. There was a relatively small infiltration of leukocytes from the blood but only a very slight formation of polymorphonuclears, myelocytes and eosinophils. The reason for this almost exclusively erythroblastic marrow may have been that the destruction and loss of red blood-cells was specially severe, and that the usual site of new erythrocyte formation, the bone-marrow, had become practically entirely devoted to its production, assisted to a considerable extent, as has been mentioned, by the spleen and liver. A great proportion of the leukocytes found in the blood were evidently derived from some other source than the bone-marrow. The greater part of the lymphocyte-like cells, for instance, were evidently derived from proliferative processes in the lymph-nodes, and from endothelial surfaces in other tissues. In connection with the consideration of the development of the neutrophil and eosinophil myelocytes in the blood, it may be again noted that numerous coarsely granular eosinophil cells were found in apparently all stages of formation in the spleen, to a less extent in the liver and occasionally in the lymph-nodes.

Clumps of large, very finely acidophil granular mononuclear cells were also found in the kidneys. These clumps, of course, may have been formed by local proliferation from some of the cells which had penetrated from the blood and locally developed, but they also presented evidences that some of them had entered the blood subsequently. These may have been responsible for the production of some of the myelocytes observed in the peripheral blood. Occasionally also in the peripheral blood. myelocytes of l [illegible] yp [illegible] e found in [illegible] ivision. These eviden [illegible] that [illegible] myeloid tiss [illegible] the body, [illegible] sible to demonstrate experimentally that extensive extramedullary blood formation, both leukoblastic and erythroblastic, may occur in anemia produced by hemorrhage or blood-destructive poisons.

In conclusion, this case presented several interesting features, being for a considerable time a more or less mixed type of leukemia. Anemia, although usual in leukemia, was in this case particularly evident and was described by von Leube as "leukanemia" or leukemia of the red blood-cells. One might place it in the category described by von Leube as "leukemia" or leukemia of either variety associated with anemia of the pernicious type.

Lymphosarcoma may be associated with a moderate increase of lymphocytes in the blood, and there may also be considerable anemia. Sternberg has designated a type, which in some way resembles this case, as "leukocarcinomatosis," or an associated lymphosarcoma with leukemia. The present case, however, varies from the type described by Sternberg, in the blood-picture, and in there being no definite evidences of tumor growth in the anterior mediastinum, lymph-nodes or elsewhere.

Lymphadenoma has also to be considered as a possibility. The glandular enlargement was, however, too uniform. The great splenic enlargement was also against this. In some cases of lymphadenoma there may be a slight leukocytosis, but rarely to the extent found in this case. There was no evidence in the enlarged nodes or in the internal organs of the necrotic or fibroid nodules so usually observed in lymphadenoma. The mass in the mediastinum, which seemed markedly to thicken the pericardium, consisted of hyperplastic lymphoid cells, embedded in old inflammatory tissue, but suggested neither lymphadenoma nor lymphosarcoma.

The case seems to be placed most correctly in the category of leukemia. The leukocytes were never very greatly increased in number, to the extent so commonly observed in leukemia. The lymphocytes were increased proportionately more than any other type, yet all forms of leukocytes were increased quantitatively. The blood-picture was one of a mixed type, which is not altogether uncommon in leukemia. This case was, however, very rapid in its course. It illustrated well the different sources from which the various types of leukocyte can be derived.

The extreme infiltration and proliferation of leukocyte-like cells in the lymph-nodes all over the body, and in the kidney and spleen, with no such changes to any marked extent in the lungs, liver, intestine or other organs, are also of interest, indicating that the cause of this reaction was exerted specially in certain positions. The great enlargement and matting of the mediastinal nodes is quite unusual in leukemia, and, at least clinically, made the diagnosis a subject for considerable speculation. This leukemic condition followed soon after syphilis had been acquired, and although it has no place in the recognized sequelae of syphilis, yet the question has to be asked whether syphilis was merely a coincident process, a modifying condition or even the essential etiologic factor. The patient's brother had apparently developed the same condition, but also had a history of having acquired syphilis.

Whatever may have been the causative factor in this disease, there must have been a very severe toxic process which rapidly destroyed all the elements of the blood and had stimulated the extensive evidences of regeneration observed in the blood and certain tissues.

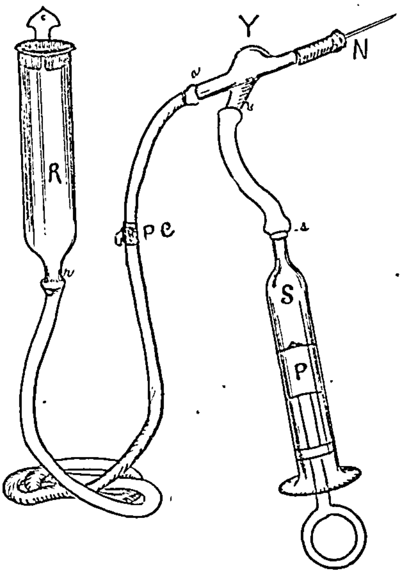
A COMBINED GRAVITY AND SYRINGE METHOD FOR THE INTRAVENOUS INJECTION OF SALVARSAN

MORRIS ABRAMOVITZ, M.D.
BALTIMORE

In order to overcome some of the difficulties of the gravity and the syringe methods and at the same time to retain the advantage of each, I have devised a simple and inexpensive apparatus for administering salvarsan intravenously.

The principal parts of this new apparatus are shown in the accompanying diagram. In the figure, *R* represents a glass cylinder to receive the solution which is to be injected. To cylinder *R* is attached at the point *r* a piece of rubber tubing provided with a pinch-cock, *P C*. This constitutes the gravity part of the apparatus.

The syringe portion of the apparatus is represented by *S*, which is the barrel of a glass syringe into which fits the piston *P*, consisting of a glass stem packed with heavy firm cord. The piston can readily be removed from the barrel so that the two parts can be easily and thoroughly cleaned. At the point *s* of the syringe is fitted a small piece of rubber tubing.



Apparatus combining the gravity and syringe methods, for the intravenous injection of salvarsan. *R*, reservoir, connected with Y tube at arm *a*; *S*, syringe, connected with Y tube at arm *b*; *N*, needle, connected with Y tube at arm *c*; *P C*, pinch-cock; this is of the one-motion variety and can be operated by one hand.

The essentially new part of the apparatus is a Y-shaped tube, *Y*. The stem constituting the base of the Y has protruding from the upper surface a small glass bulbous chamber connected with the main lumen. This glass chamber serves a double purpose. In the first place, it helps to maintain a continuous flow of fluid from the gravity chamber *R* through the needle while the syringe *S* is being filled with fluid; second, it serves as a trap for air-bubbles which may accidentally enter the apparatus at some point during its use. This chamber will absorb and detain about 2 c.c. of air.

To arm *a* of this *Y* tube is attached rubber tubing leading from the gravity cylinder; and to arm *b* is attached the tubing from the syringe. The exact connections will depend on which arm is employed, it being always most convenient to have the syringe on the outside, where it can be manipulated more readily. This makes the apparatus suitable for use on either arm, whereas the ordinary two-way stop-cock syringe is most conveniently used on the left arm, since in this position the stop-cock is directed upward.

The apparatus is used in the following way: After sterilization, the cylinder *R* is filled with some freshly distilled water which is to be used in preparing the solution of the drug. By opening the pinch-cock all the air is allowed to leave this portion of the apparatus. The cylinder is now suspended from a gravity pole. Now the syringe *S* is filled with water and the air driven out by pressing the piston upward. Then the connections with the Y tube are made as above described. By lowering the Y tube and opening stop-cock *P C* the air is driven out of the stem of the Y tube directly connected with the tubing leading to the cylinder *R*. The piston of the syringe is now propelled forward, thus driving out the remaining air from the Y tube. The apparatus freed of air is now ready for use.

The needle is inserted into the vein in the usual manner and the piston of the syringe drawn slightly toward the operator. A successful puncture is indicated by a reflex column of blood in base of the Y tube. As soon as this is noted, the Y tube is fixed to the patient's arm by applying a piece of adhesive plaster at the junction of the needle and the Y tube. With the pinch-cock closed, pressure is made against the piston, thereby reinjecting the column of blood back into the vein and slowly introducing fluid into the vein. Meanwhile an assistant has ample time to prepare and add the solution of salvarsan to the water in the cylinder *R*. When the syringe has been emptied of its contents, it is refilled by opening the pinch-cock and pulling the piston slowly. Experiments have shown that even during the period of filling the syringe the gravity continues to force the solution through the needle into the vein, so that at no time is there any stasis in the system.

The importance of this continual current cannot be overestimated, since it prevents the formation of clots and the clogging of the needle during the act of refilling the syringe, a difficulty often met in the ordinary two-way stop-cock syringe.

When the syringe has been refilled, the pinch-cock is again closed and the contents of the syringe expelled into the vein. The syringe can thus be filled and emptied by drawing from the reservoir cylinder *R* until the latter is completely emptied. If for any reason the Y tube or syringe should break or if any other difficulty be encountered during the administration, the whole may be quickly converted into a gravity apparatus by disconnecting the Y tube and inserting between the tubing leading from the reservoir *R* and that leading to the needle, a straight cannula.

The advantages of this apparatus over the others commonly in use are the following:

1. The principal parts of the apparatus are inexpensive and all glass, thus assuring cleanliness and easy sterilization.
2. The time of injection is reduced to a minimum and the amount of assistance needed greatly lessened; indeed, in case of necessity the whole procedure can be carried out by one person (by opening the pinch-cock while the solution is prepared).
3. The maintenance of a continuous current through the needle, which prevents clots and clogging of the needle.
4. The apparatus furnishes a safeguard against the entrance of air with the solution, by the bulbous portion of the Y tube, which will entrap and detain 2 c.c. of air.

1707 East Baltimore Street.

Cystitis in the Female.—Curable cystitis in the female is tantamount to infection from below—by way of the urethra. Obstinate cystitis is nearly always due to infection from above—by way of the ureter.—Fenwick in *Clin. Jour.*, London.

A CASE OF PSEUDOHERMAPHRODITISM

PAUL OLIVER, M.D.
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CHICAGO

History.—The patient, Lillian K., aged 4, was the fourth of five girls and weighed 8½ pounds at birth. She was breast-fed, walked at eight months, and suffered from marked bow-legs. The mother noticed that she was exceptionally active and rough in play with the other children. "She loved to run and jump like a boy." The mother first noticed a swelling in the right groin when the child was 2 years old. This caused no discomfort and completely disappeared in the recumbent position. There was a gradual increase in size and extension downward as the child grew older, until it finally reached to the right labium majus. At the age of 3 years the child contracted whooping-cough and a swelling appeared in the left groin, similarly located but smaller than that on the right. The family physician at this time made a diagnosis of double inguinal hernia and advised wearing a truss. Several were tried but on account of discomfort and inefficiency they had to be discarded. Operation was then decided on.

Family History.—The mother and father are first cousins. No history of lues or addiction to alcohol was obtainable in either. The mother has given birth to five healthy children and has had no miscarriages. A history of hernia or malformation in other members of the family was not obtainable.

Examination.—The general appearance of the child was that of a healthy little girl. On standing and increase of intra-abdominal pressure a swelling appeared in each groin above Poupart's ligament. The right labium majus was noticeably larger than the left. The swellings gave an impulse on coughing and reduced spontaneously on lying down. About midway in the left inguinal canal was felt a firm body about the size and shape of a bean. At the time this was thought to be an ovary or an enlarged lymph-node. Further examination was negative.

Operation.—Double herniotomy was done under ether. When the sac on the right side was opened a small body, which was bound to the labium by a strand of tissue, came into view. It was about the size of a bean, firm and completely covered by peritoneum of the sac. This had been overlooked in the external examination. It was thought to be an ovary or a testis, more likely the former. The index-finger, readily admitted to the abdominal cavity by the internal ring, could palpate no structure which might be taken for the uterus. The sac was ligated at the neck and all structures in the inguinal canal were removed. The internal ring was closed completely. On the left a similar condition was found with the glandular body located higher in the canal. The sac was separated and ligated and the other structures of the canal placed inside the abdomen. The internal ring was closed.

Examination of the external genitalia was then made. The right labium majus showed some rugae and might be taken for a rudimentary scrotal half. No sign of a penis was present and there was no distinct clitoris, the labia minora meeting in this position to form a fold. The labia majora and minora were well marked. There was a distinct vestibule, an annular hymen and just above the opening, the urethra. The vaginal opening was large and a probe could be introduced a distance of 2 cm. Careful examination revealed no other abnormality.

Pathologic Report.—The specimen removed consisted of a flat piece of tissue, one surface of which was covered by peritoneum. A cord-like structure extended down the middle and ended in an enlargement which seemed to surround a firm body at the lower extremity. This body was oval, whitish and measured 10 by 9 by 5 mm. Microscopic section showed this to be a testis with epididymis and vas deferens. The arrangement of the convoluted tubules was typical. The cells lining the tubules were very indistinct in outline and the nuclei stained poorly. The intertubular connective tissue was increased in amount and numerous groups of interstitial cells were present. Although n[illegible] sections from different parts were examined, no [illegible] ti[illegible]

This case is an example of the most common form of pseudohermaphroditismus masculinus. Numerous such cases are recorded which come to the surgeon primarily for herniotomy or removal of an inguinal tumor. Neugebauer[1] collected reports of forty-two herniotomies in which errors of sex were discovered. In thirty of these, girls or married women, herniotomy demonstrated testicles, and once herniotomy showed a female who had been brought up as a boy. In four other cases operation was done to determine the character of genital glands in labia majora of young girls and testes were found in each instance.

The question arises as to the proper method of procedure in such cases and it seems only rational, when such a condition is suspected, to remove first a piece from the gland for microscopic section under local anesthesia. Before puberty the ovary should be replaced inside the abdomen, and a testicle into the scrotum or its representative, as in the undescended testicle operation. Several operators have replaced the testicle inside the abdomen only to have a prompt recurrence of the hernia. After puberty it is best to remove a non-functionating undescended testis, because of its tendency to become the seat of a malignant growth. Numerous instances of removal of both testes in girls are recorded, but this does not seem justifiable before puberty. It is well known that the great majority of cryptorchid testes are hypoplastic and never produce spermatozoa, although a case is reported by Hirschfeld[2] of a pseudohermaphrodite, 20 years of age, with external genitalia of female type and no testes to be found, with active spermatozoa present in the secretion from the urethra after masturbation.

1605 Van Buren Street.

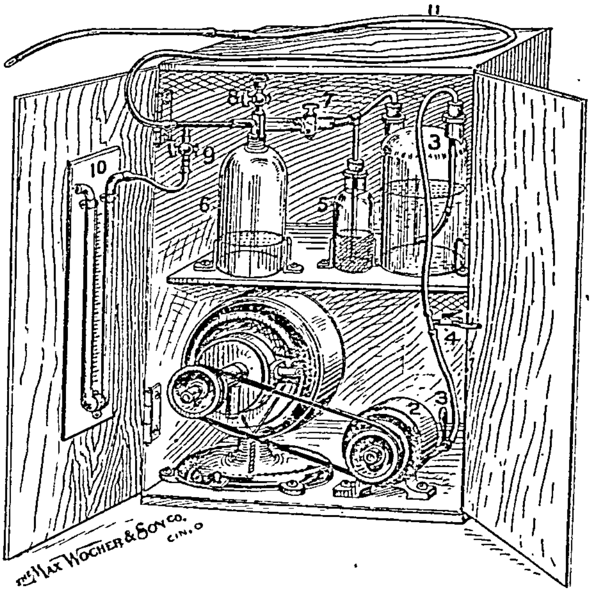
A NEW AND INEXPENSIVE INTRATRACHEAL INSUFFLATION OUTFIT

Moses Salzer, M.D., Cincinnati
Anesthetist to the Jewish Hospital

Intratracheal insufflation anesthesia is a method of etherization of such great value in selected cases that all hospitals should be equipped with an apparatus for its administration, and all anesthetists should be familiar with the technic. An apparatus of this sort is also of great value in resuscitative work as a substitute for artificial respiration. Most of the apparatus on the market, however, cost in the neighborhood of $250, which is prohibitive in many instances. The accompanying illustration shows an apparatus which has given perfect satisfaction in my hands, embodies all the advantages of practically every machine on the market, and can be profitably sold at about one-fourth the price of any other machine. The construction is exceedingly simple. It weighs about 40 pounds with the case and can be easily carried.

The apparatus itself consists of a 1/10-horse-power motor with a rheostat connected with a rotary blower (2), such as dentists use. This blower has an attachment (3, lower right-hand corner) by which, together with the rheostat on the motor, the most exact adjustment of the air-pressure can be made with a minimum of noise from the motor. From the rotary blower (2) the air passes through a Wolff bottle (3, upper right-hand corner), where it is washed. At 4 a T tube is inserted to which an ordinary foot-bellows can be attached in case of emergency or when no electricity is available. Connected with the tube leading from the Wolff bottle by a T is the safety arrangement (5), which consists of a bottle of mercury into which a glass tube dips, the distance being regulated according to the pressure desired. If it is desired to maintain a pressure of 20 mm., the tube dips 20 mm. into the mercury, and any pressure in excess of this, as during a fit of coughing or spasm of the glottis, will cause the excess air to bubble through the mercury. The current of air passes from the other limb of the T to the bottle (6) containing ether, which is so constructed that the valve (7), a three-way valve, allows the air to pass straight across without taking up any ether, or any part or all of the air can be made to pass over the surface of the ether. The turning of this one valve alone regulates the depth of anesthesia. At 8 is an ordinary automobile priming-cup which serves the double purpose of relieving the pressure at stated intervals, as is advised by Meltzer, and also as a means of filling the ether bottle (6). At 9 is attached the manometer (10) which is fastened to one of the doors of the case. The tube leading from the apparatus to the intratracheal catheter is shown at 11. Before using the apparatus it is well to attach the catheter which is to be used, then turn on the motor and by means of the rheostat and the escape valve (3, lower right-hand corner), on the blower obtain the desired pressure, which can be read off on the manometer.

After the anesthesia has been started the only manipulation necessary is to control the depth of anesthesia by valve 7. If desired, the pressure can be periodically released by quickly turning valve 8. Needless to say, this apparatus can also be used for pharyngeal insufflation and other methods of ether vapor anesthesia.



Apparatus for intratracheal insufflation.

ANURIA—PERHAPS HYSTERIC

F. J. Sheahan, M.B., Delhi, Ont.
Surgeon to Michigan Central Railway; Coroner for Norfolk County

An interesting case of complete anuria of eight days' duration occurred in a young man of previous good health with the exception of occasional polyuria at varying intervals.

Anuria may develop in four ways: (1) following intense congestion in acute nephritis; (2) in renal stone when calculi block both ureters; (3) when the suppression is perirenal, resulting from (a) fever and inflammatory processes, (b) acute poisoning by phosphorus, turpentine or lead, (c) collapse after operations or injuries and in the collapse stage of cholera and yellow fever; (4) hysteric anuria.

The case which I propose to report does not come under any of these headings with the possible exception of the fourth. But the correctness of classifying this case under hysteric anuria I think is doubtful. The patient had at no time previously shown any hysteric tendencies; his family history on this score was entirely negative.

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[1] Neugebauer: Hermaphroditismus beim Menschen, 1908; Brit. Gyn. Jour., 1903, xix, 226.

[2] Hirschfeld: Deutsch. med. Wchnschr., 1911, xxxvii, 1193.

The patient, G. M., a farmer aged 25, height 5 feet 6 inches, weight 150 pounds, to all appearances in perfect health, with previous good history with the exception of a slight polyuria which occurred for about ten or twelve hours every month or two, developed the following condition: In the forenoon of Jan. 4, 1913, he noticed a diminution in the quantity of urine; by 3 o'clock that afternoon complete anuria had developed. This condition persisted until January 11. On the 5th and 6th he continued his work as usual; on the morning of the 7th he consulted me by telephone. I advised him to go to bed and promised to come to see him. On my arrival I found the patient dressed, seated by the stove and feeling quite comfortable, having experienced no pain or discomfort since the attack began. He stated that he had been in excellent health before the condition developed. On examination he was somewhat puffed under the eyes, but had no other objective symptoms. I passed a catheter; there was no urine in the bladder. The kidneys were not tender on pressure, or enlarged; temperature normal; pulse 82, with somewhat high tension; liver normal in size, with no tenderness; lungs clear; heart sounds clear; no enlargement; apex-beat in fifth interspace; stomach normal; bowels somewhat active; the patient had been taking salts; brain clear, active and apparently normal; pupillary reflexes normal. I advised him to come to my office for cystoscopic examination, which he did, making the trip without mishap. Examination with the cystoscope showed that the bladder was normal; the ureteral openings were clearly visible, but no urine was coming from either. I catheterized the ureters and without difficulty passed the instrument into the pelvis of each kidney. There was no obstruction. It was clearly a case of complete cessation of function of both kidneys. I advised him to continue the salts and drink water freely. I prescribed a saline diuretic and infusion of digitalis; cupped the loins; applied hot applications; employed pilocarpin to produce sweating; gave large warm saline enemas and irrigated the bladder with saline solution, thinking that possibly the act of voiding the fluid might have a reflex action on the kidneys.

These measures were apparently of no value. I saw the patient again on the 8th; his condition was much the same with the exception that he complained of periodic headache. I still persisted with the treatment described. On the 9th his condition was similar; there was some swelling of the ankles and wrists; the patient was quite bright and versatile. On the 10th his condition had decidedly changed; headache was pronounced and continuous; patient vomited twice during the day and once during the night; pupils contracted; temperature was 97.4; there was occasional twitching of the muscles; the patient had now developed a condition of extreme general anasarca such that he could not close his hands or get his fingers together; his lips protruded; his eyes were almost swollen shut; the skin of his legs was shiny and glistening, and his scalp would remain dented on pressure. I immediately ceased the measures I had been using and put him on a mixture of apocynum, 5 grains, iris versicolor ½ grain, hyoscyamus 4 grains to the fluidram. A 1-dram dose was given every three hours. About 3 p. m. on the 11th, exactly eight days from the beginning of the attack, the kidneys began to functionate; the patient passed urine very freely, so that in six hours he completely filled a 5-quart vessel; and after that at longer intervals he continued to void urine freely. By evening of the 12th at my next visit he was greatly improved. Since then he has progressed steadily.

Urinalysis: Color pale and watery; reaction slightly acid; specific gravity 1.006; albumin absent; sugar absent; microscopic urates, amorphous phosphates, a few oxalate crystals, some squamous epithelial cells, evidently from the bladder.

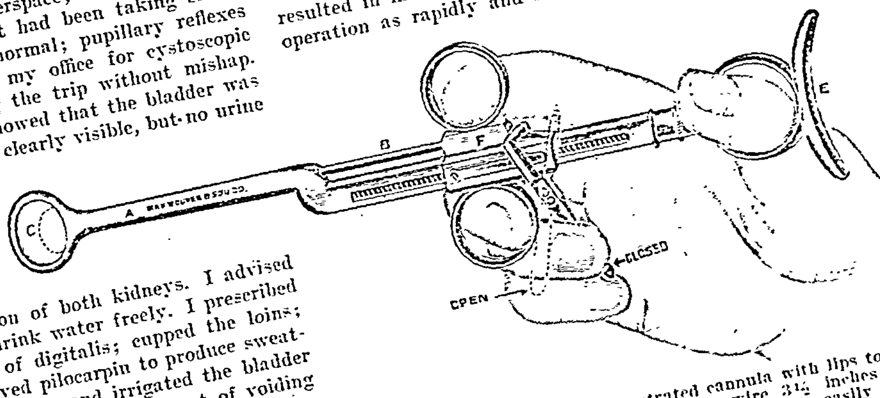
Could this have been hysteric anuria? From this point of view we must admit that there are very few cases in which the suppression is complete, as often on passing a catheter some urine will be found in the bladder. There are some interesting cases reported, one being by Charcot of a hysteric young woman in whom the suppression lasted eleven days, and another by Bailey of a young girl aged 11 who passed no urine from October 10 to December 12. On consulting the literature it will be noted that this condition develops in persons of hysteric tendencies who at times manifest the disease in other forms, and is more frequent in females. The question of hysteric deception must be taken into account. In this case, however, such deception is out of the question. Is it a condition which may develop as a complication of polyuria or transient polyuria? The latter symptoms he had occasionally shown and even then to no appreciable extent. Is it a forerunner of diabetes insipidus and produced by a toxemia coexistent with the early manifestations of that disease?

I think it was clearly demonstrated that the kidneys resumed their functions as the result of a powerful renal stimulant. The problem is, what was the cause of this condition? The question is an open one.

A NEW TONSILLECTOME

W. Edwards-Schenck, M.D., Cincinnati

The pathologic tonsil has impressed the profession with the value of measures for its removal and this necessity has resulted in many efforts by capable operators to perform the operation as rapidly and safely as human ingenuity permits.



A new tonsillectome. *A*, fenestrated cannula with lips to conceal wire loop; *B*, eyeletted rod. A short wire 3½ inches long is threaded into two eyelets forming a loop which is easily removed. There is no kinking of wire, as in the Beck instrument. *C*, wire loop drawn taut engaging tonsil ready for *D*, lever that locks carriage *F* to ratchet-screw *E*. Dotted lines show position of lever when carriage *F* is free from the rachet-screw *E*. Note how easily the third finger locks or releases carriage *F* from ratchet *E*, thus leaving the left hand free. *E*, ratchet-screw with thumb-ring to complete removal of tonsil; *F*, carriage with finger-rings of sufficient diameter for the largest hand. This prevents instrument from accidentally leaving the hand when it is slippery from blood or other moisture.

Hence the literature shows a number of instruments devised for this special operation.

An article by Dr. Joseph C. Beck,[1] with illustration of the tonsillectome he devised and uses, covers this operation fully and explicitly, and I can do no better than to endorse his method and refer the reader to the article. His instrument, however, lacks certain salient features that I have endeavored to incorporate in the new instrument herewith illustrated.

Early in 1911, I experimented by lashing the fenestrated part of a McKenzie guillotine to a tonsil-snare, thus stiffening the wire so that, with the finger, the tonsil could be pushed into the fenestra (after the method long in use by Dr. Victor Ray with the McKenzie guillotine). In this way I succeeded in getting the wire down to the base of the tonsil and easily snaring it encapsuled. This crude instrument was quite satisfactory but it was clumsy and from it was evolved the new one which is fully described under the illustration.

If the tonsil is adherent to the pillars, it should be dissected free, then fed into the f[illegible]tra (a) [illegible] the instrument held firmly down to the base of the tonsil with the *left forefinger* and the wire loop (*C*) drawn as taut as the operator's strength permits and, if this is not sufficient to remove the tonsil, then carriage (*F*) should be locked by means of the lever (*D*) and the operation finished by means of the ratchet-screw (*E*). In many instances, depending on the strength of hand of the operator, the ratchet-screw will not be needed.

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[1] Beck, J. C.: [illegible] Tonsillectome, The [illegible] Instrume [illegible] 240

The same wire loop can be used to remove the second tonsil by reversing the movement of the ratchet, when the wire will present at the end of the cannula and be easily replaced in the groove of the fenestra.

This method is practically bloodless compared to that with the various cutting instruments.

19 West Seventh Street.

IRRIGATION OF THE SPINAL CANAL AS A PRELIMINARY TO THE INTRODUCTION OF FLEXNER'S ANTIMENINGITIC SERUM

D. I. Hirsch, M.D., Monroe, La.

The use of serum in epidemic meningitis has so lessened the mortality of this dread disease that we are now able to classify it along with antidiphtheritic serum, but the mortality is still too high. This may be due in some cases to delayed administration, in others to the severe or fulminating character of the cases, and in still others to the presence of thick or purulent fluid which prevents the serum from permeating to all of the recesses of the tract. My object is not to go into details, but to mention a few points which may be of aid in the treatment of this condition.

According to Flexner, the serum produces its beneficial effects by acting directly on the meningococci, the multiplication of which it inhibits. The damage which is thus inflicted leads to dissolution of the cocci, which are made more susceptible to ingestion by the phagocytes. Thus it is that the cerebrospinal fluid quickly fails to yield cultures of the meningococci though they may still be discovered by direct microscopic inspection. The persistence or progression of the infection arises from the inaccessibility of the diplococci in thick exudate in isolated parts of the membrane or in the blocked-up cerebral ventricles. In view of these facts it would be reasonable to modify Robbs' procedure and irrigate in all cases, not limiting irrigation to those cases in which the fluid is purulent. In a large portion of the cases in which the serum is given early, the results are marvelous. It is in those cases in which the gratifying results are not to be had and in those in which treatment is delayed that one would expect to get the best results from irrigation. As it would be impossible to determine beforehand which cases will improve, and as the procedure is harmless, would it not be wise to irrigate in all cases? The two most valuable results of irrigation are the removal of a large number of cocci and the preparation of the field for the reception of the curative serum, which would more than compensate for the loss of a few leukocytes.

TECHNIC

Remove from 30 to 40 c.c. of fluid by lumbar puncture; then with a small syringe, using gentle pressure, introduce 30 c.c. of normal salt solution 100 F. into the canal; allow this to return; repeat this three times in those cases in which the fluid is cloudy, and, in the purulent cases, repeat until the fluid returns clear. Now, the canal should be clear, all obstacles removed and the serum better able to do its work.

REPORT OF CASES

Case 1.—The patient, a colored boy, aged 14, had been sick seventy-two hours. The symptoms were delirium and rigid neck. Kernig's sign was positive; this patient complained of headache and pain in limbs. Fluid was withdrawn and 30 c.c. serum administered. The fluid was thick, containing many Gram-negative diplococci. There was no improvement in the next twenty-four hours. The following day another puncture was made, the irrigation being used before the serum was given; in twelve hours patient was conscious and entirely free from pain, the only symptoms that remained being the stiff neck and the Kernig sign. The patient recovered.

Case 2.—The patient a colored girl, aged 11, was taken with a chill, January 15, at 3 p. m. She had no headache and no pains. A mild purgative was given. January 15 at 6 a. m. the patient was unconscious. I took this to be a fulminating case. Spinal puncture was made; the fluid was examined and found positive. A second puncture was made at 9 a. m.; 20 c.c. of fluid were withdrawn altogether as 15 c.c. had been taken for examination. The canal was irrigated as described above. At 4 p. m. the patient was normal except for a rigid neck. The canal was irrigated daily for three days. Patient recovered.

As this is a harmless procedure, those who are so unfortunate as to have to treat meningitis might find it of some benefit.

Therapeutics

DISTURBANCES OF THE HEART

(Continued from page 749)

TOXIC DISTURBANCES

Under this head it is not proposed to consider disturbances of the heart due to infections, to cardiac disease, or to localized or general acute or chronic disease, but to discuss disturbances due to the absorption of irritants from the intestines, and to alcohol, tobacco and caffein.

It is hardly necessary to repeat that various toxins which may seriously irritate the heart may be absorbed from the intestines during fermentation or putrefactive processes in either the small or the large intestines. The heart may be slowed by some, made rapid by others, and it is often made irregular. The relation of the absorption of intestinal toxins to increased blood-pressure has already been described, and the necessity of removing from the diet anything that perpetuates or increases intestinal indigestion in all cases of high blood-pressure has already been referred to several times. The indications that such a condition of the intestines is present are irregular action of the bowels, a large amount of intestinal gas, sometimes watery stools, often a coated tongue, and the presence of indican in the urine.

Intestinal Putrefaction.—The most successful management of intestinal putrefaction is to remove meat from the diet absolutely. Laxatives in some form are generally indicated, and one of the best is agar-agar. Of course aloin and cascara are always good laxatives, with an occasional dose of calomel or saline, if such seem indicated. Some of the solid peroxid-of-hydrogen-carrying preparations (magnesium peroxid, calcium peroxid, see N. N. R., 1912, p. 174) have been advised as bowel antiseptics, but they are not more successful than many of the salicylic acid preparations, and perhaps none is more efficient than salol (phenyl salicylate) in a dose of 0.3 gm. (5 grains), three or four times a day. Washing out the colon with high injections is often of great value, but should not be continued too long lest the rectum become habituated to distention and bowel movements not take place without an enema.

Lactic acid bacilli, best the Bulgarian, are often of value in intestinal fermentation. A tablet may be eaten with a little milk-sugar or a small lump of cane-sugar after each meal. Or yeast may be taken in the form of brewer's yeast, a tablespoonful in a glass of water, two or three times a day, or one-sixth of an ordinary compressed yeast cake dissolved in a glass of water and taken once or twice a day. Or various forms of lactic acid fermented milk may be successful.

Any particular food that causes fermentation in the intestine of the subject should be eliminated from his diet; in other words, the patient must be individualized as to fruits, cereals and vegetables but, as above stated, meat should ordinarily be withheld for a time at least.

Alcohol.—The effect of alcohol on the body will evidently have to be considered a very important factor for a long time to come, in spite of the educational influence exerted on the public, and especially on the young, by the publication of facts concerning the dangers of alcohol, and in spite of the increase of total abstinence and no-license cities, counties and states. How true the statistics may be is hard to estimate, but statistics are quoted to indicate that the consumption of alcoholic drinks is at least not decreasing even in the United States.

Enough has already been said of the value and limitations of alcohol as a therapeutic agent. As a beverage, when constantly used, it is likely to cause obesity, gastric indigestion, arteriosclerosis, myocardial degeneration, chronic nephritis and cirrhosis of the liver. Its first action is undoubtedly as a food, if not too large amounts are taken, and therefore it is a protector of other food, especially of fat and starch. A habitué, then, especially if he has reached the age at which he normally adds weight, increases his tendency to obesity, and the first mistake in his nutrition is made. If he takes too much alcohol when he eats or afterward, his digestion will be interfered with. Sooner or later, then, gastritis and stomach indigestion develop, with consequent intestinal indigestion. If he takes strong alcohol, like whisky, on an empty stomach, he may sooner or later cause serious disease of the mucous membrane of the stomach, first chronic gastritis, and later atrophy of the glands of the stomach. Alcohol with meals which contain meat tends to the production of an increased amount of uric acid. Alcohol taken before meals on an empty stomach causes sudden vasodilatation after absorption. It goes quickly to the liver, irritates it, and little by little causes congestions of the liver, so that sooner or later sclerosis of this organ develops.

Alcohol probably causes arteriosclerosis not by its action *per se,* but indirectly by causing gastro-intestinal indigestion and insufficiency of the liver, as a result of which more toxins circulate in the blood, tending to produce arteriosclerosis. Sooner or later these irritants cause kidney irritation, and chronic interstitial nephritis may develop. Just which process becomes the farthest advanced and finally kills the patient is an individual proposition and cannot be foretold. The finale may be cirrhosis of the liver, uremia, arteriosclerosis, apoplexy or myocarditis with dilatation or coronary disease.

While small, more or less undiluted doses of alcohol, as whisky or brandy, may cause quick stimulation of the heart by reflex irritation of the esophagus and stomach, vasodilatation occurs as soon as the alcohol is absorbed, and if large doses are absorbed, vasomotor paresis may occur, temporarily at least.

During acute fever processes with an increased pulse-rate, provided shock or collapse is not present, small or medium-sized doses of alcohol, by dilating the peripheral blood-vessels and increasing the peripheral circulation, may relieve the tension of the heart and slow the pulse by the equalization of the circulation. Some of this action may be due to the narcotic effect of alcohol on the cerebrum. Alcohol may thus in many instances act for good. Overdoses, as shown by cerebral excitation, flushing of the face and increased pulse-rate, will do harm; in fact, many a patient with a serious illness, as typhoid fever or pneumonia, is made delirious by alcohol, and the delirium is not a complication of the disease. Large doses of alcohol in shock or collapse are contra-indicated.

Chronic overuse of alcohol may cause chronic myocarditis and fatty degeneration of the heart, with later weakening of the heart muscle and dilatation.

In acute alcohol poisoning the pulse may become very rapid and weak, and the patient may die of heart failure. This is often seen in delirium tremens. The administration in this condition of enormous doses of digitalis by the stomach is inexcusable, and the reason that such patients survive such digitalis poisoning is that the stomach does not absorb during this cardiac prostration.

A treatment as successful as any in this heart weakness in delirium tremens is morphin sulphate, 1/4 grain, and atropin, 1/150 grain, given hypodermatically, with the administration of digitalinum hypodermatically for its later action on the heart. If the heart is contracting very rapidly, an ice-bag over the precordia will often quiet it. If the pulse is very weak, the cerebral sedatives more frequently used in delirium tremens, such as chloral, bromids, paraldehyd, etc., are generally contra-indicated. A hot foot-bath and an ice-cap on the head sometimes aid in establishing a more general equalization of the circulation. It may often be necessary to administer strychnin, although if the patient is greatly excited it should be withheld as long as possible. For the same reason camphor, coffee and other cardiac stimulants which cause cerebral excitation should be withheld.

If the patient is in alcoholic coma, the pulse is generally slow, although it may be of low pressure unless the patient is otherwise diseased. Caffein or coffee is here indicated, and the patient should be kept warm lest he lose necessary heat. The stomach should be emptied by an emetic, often best by apomorphin hypodermatically, unless the pulse is excessively weak. Strychnin may also be given, and digitalin, hypodermatically, if it seems indicated. Camphor is another cardiac and cerebral stimulant that is valuable in these cases.

The treatment of an actual degeneration of the heart from overuse of alcohol is similar to the same condition from other causes.

Caffein.—Caffein can irritate and cause irregularity and tachycardia, especially in certain persons. In fact, some can never take a single cup of coffee without having an attack of palpitation, and many times when coffee and tea have been unsuspected by the patient as the cause of cardiac irritability, their removal from the diet has stopped the symptoms, and the heart has at once acted normally.

Caffein is a stimulant and tonic to the heart, increasing its rapidity and the strength of the contractions. It is also a cerebral stimulant, one of the most active that we possess among the drugs. It increases the blood-pressure, principally by stimulating the vasomotor center and by increasing the heart strength. It acts as a diuretic, not only by increasing the circulatory force and blood-pressure, but also by acting directly on the kidney. This action on the kidney contra-indicates the use of caffein in any form, except i[illegible] re inst[illegible] when there
is acute or chronic ne[illegible] he [illegible] bloo
pressure caused by caff[illegible] t [illegible]
when there is hyperten[illegible]
heart and later may sl[illegible]
dose is large or too f[illegible] a[illegible]

heart ceases to relax properly and there is an interference with the contraction of the ventricles, the heart muscle becomes irritable, and a tachycardia may develop.

Therefore when a heart has serious lesions, whether of the myocardium or of the valves, with compensation only sufficient, the action of caffein in any form is contra-indicated. The fact that it raises the blood-pressure, thus increasing the force against which the heart must act, and that it irritates the heart, placee. to more sturdy or irregular contraction, indi to that with patient with a heart lesion or with a ner heart should never drink tea and coffee in any beverage.

Many patients cannot sleep for ma have taken coffee or tea, as the a of caffein is projected for ho CANAL AS A PREn. Caffein does not absorb so q DUCTION OF FLEX-does not act so quickly when tak ITIC SERUM f tea and coffee as it does when D., MONROE, LA. g or as a beverage which contain Persons who nic meningitis has are nervously irritable ase that we a stimulated cerebrally, with or witho itic serum, b -pressure, should not take this cerebral due in some excitant. This is true in early childhoo the severe or fu, and continues true as age advances, i others to the s. It is a crime to present caffein as a so its the serum verage to children and young persons whe ract. My objectt of the age is such as already to overstir points which mis systems and all hearts.

A com on. y of persons over 40 learn that they c ing to Flexner a or coffee with their evening meal with by acting ing it difficult to sleep. Such patients, of course, should omit this stimulant. Some patients have already recognized this fact and its cause; others must be told. The majority of adults are probably no worse and may be distinctly benefited by the morning cup of coffee and the noon coffee or tea, provided that the amount taken is not large. It seems to be a fact that the drinking of coffee is on the increase, especially as to frequency. Certainly the five o'clock tea, with women, is on the increase, and we must deal with one more cerebral and nervous excitant in our consideration of what we shall do to slow this rapid age.

Tobacco.—In spite of the fact that a large number of men to-day do not smoke, more and more frequently every clinician has a patient who smokes too much. The accuracy with which he investigates these cases depends somewhat on his personal use of tobacco, and therefore his leniency toward a fellow-user. Perhaps the percentage of young boys who smoke excessively is larger than the percentage of men. Whether the term "excessive" should be applied to any particular amount of tobacco consumed depends entirely on the person. What may be only a large amount for one person may be an excessive amount for another, and even one cigar a day may be too much for a person—as much for him as five or more cigars for another.

The internal revenue report shows that the use of tobacco is on the increase; from July 1 to Oct. 1, 1912, 1,000,000,000 more cigarets were used in the United States than for the same three months of 1911. During the same period of three months, in which a total of 3,800,000,000 cigarets were consumed, 1,950,000,000 cigars were also used. It is therefore seen that in spite of the public school instruction as to the physiologic action of tobacco and its harm, and in spite of the antitobacco leagues, the consumption of tobacco is enormously on the increase.

The most important action of nicotin is on the circulation. Except during the stage when the person is becoming used to the tobacco habit, in which stage the heart is weakened and the vasomotor pressure lowered by his nausea and prostration, the blood-pressure is always raised during the period of smoking. The length of time the increased pressure continues depends on the person, and it is this diminishing pressure that causes many to take another smoke. The heart is slowed by the action of nicotin on the vagi, as these nerves are stimulated both centrally and peripherally. An overdose of nicotin will paralyze the vagi. The heart action then becomes rapid and perhaps irregular. The heart muscle is first stimulated, and if too large a dose is taken, or too much in twenty-four hours, the muscle becomes depressed and perhaps debilitated. The consequence of such action on the heart muscle, sooner or later, is a dilatation of the left ventricle if the overuse of the tobacco is continued.

There is, then, no possible opportunity for any discussion as to the action of tobacco on the circulation. Its action is positive, constantly occurs, and is always to be considered. The only point at issue is as to whether such an activity is of consequence to the individual. The active principle of tobacco is nicotin, besides which it contains an aromatic camphor-like substance, cellulose, resins, sugars, etc. Other products developed during combustion are carbon monoxid gas, a minute amount of prussic acid and in some varieties a considerable amount of furfural, a poison. From any one cigar or cigaret but little nicotin is absorbed, else the user would be poisoned. It is generally considered that the best tobacco comes from Cuba, and in the United States from Virginia. While it has not been definitely shown that any stronger narcotic drug occurs in cigarets sold in this country, it still is of great interest to note that a user who becomes habituated to one particular brand will generally have no other, and the excessive cigaret-smoker will generally select the strongest brand of cigarets. The same is almost equally true of cigar smokers.

Besides the effect on the circulation, no one who uses tobacco can deny that it has a soothing, narcotic effect. If it did not have this quieting effect on the nervous system, the increased blood-pressure would stimulate the cerebrum. Following a large meal, especially if alcohol has been taken, the blood-vessels of the abdomen are more or less dilated by the digestion which is in process. During this period of lassitude it is possible that tobacco, through its contracting power, by raising the blood-pressure in the cerebrum to the height at which the patient is accustomed, will stimulate him and cause him to be more able to do active mental work. On the other hand, if a person is nervously tired, irritable, or even muscularly weary, a cigar or several cigarets will increase his blood-pressure, take away his circulatory tire, soothe his irritability, and stop temporarily his muscular pains or aches and muscle weariness. If the user of the tobacco has thorough control of his habit, is not working excessively, physically or mentally, has his normal sleep at night and therefore does not become weary from insomnia, he may use tobacco with sense and in the amount and frequency that is more or less harmless as far as he is concerned. If such a man, however, is sleepless, overworked or worried, if he has irregular meals or goes without his food, and has a series of "dinners," or uses a lot of alcohol, which gives him vasomotor relaxation, he finds a constantly growing need for a frequent smoke, and soon begins to use tobacco excessively. Or the young boy, stimulated by his associates, smokes cigarets more and more frequently until he uses them to excess.

Just what creates the intense desire for tobacco to the habitué has not been quite decided, but probably it is a combination of the irritation in the throat, especially in inhalers, of the desire for the rhythmic puffing which is a general cerebral and circulatory stimulant, for the increased vasomotor tension which many a patient feels the need of, for the narcotic, sedative, quieting effect on his brain or nerves, for the alluring comfort of watching the smoke curl into the air, or for the quiet, contented sociability of smoking with associates. Probably all of these factors enter into the desire to continue the tobacco habit in those who smoke, so to speak, normally.

The abnormal smokers, or those who use tobacco excessively, have a more and more intense nervous desire or physical need of the narcotic or the circulatory stimulant effect of the tobacco, and they smoke more and more constantly. They are largely inhalers, and frequently cigaret fiends.

It is probable that tobacco smoked slowly and deliberately, when the patient is at rest, and when he is leading a lazy, inactive, non-hustling life such as occurs in the warmer climates, is much less harmful than in our colder climates where life is more active. Something at least seems to demonstrate that cigaret-smoking is more harmful in our climate than in the tropics.

It has been shown by athletic records and by physicians' examinations of boys and young men in gymnasiums that perfect circulation, perfect respiration and perfect normal growth of the chest is not compatible with the use of tobacco during the growing period. It is also known that tobacco, except possibly in minute quantities, prevents the full athletic power, circulatorily and muscularly, of men who compete in any branch of athletics that requires prolonged effort.

The chronic inflammation of the pharynx and subacute or chronic irritation of the lingual tonsil, causing the tickling, irritating, dry cough of inhalers of tobacco is too well known to need description.

Many patients who oversmoke lose their appetites, have disturbances from inhibition of the gastric digestion, and may have an irregular action of the bowels from overstimulation of the intestines, since nicotin increases peristalsis. Such patients look sallow, grow thin and lose weight. These are the kind of patients who smoke while they are dressing in the morning, on the way to their meals, to and from their business, and not only before going to bed, but also after they are in bed. It might be a question as to whether such patients do not need conservators. The use of tobacco in that way is absolutely inexcusable, if the patient is not mentally warped. Cancer of the mouth caused by smoking, blindness from the overuse of tobacco, muscular trembling, tremors, muscle cramps and profuse perspiration of the hands and feet are all recognized as being caused by tobacco poisoning, but such symptoms need not be further described here.

The reason for which physicians most frequently must stop their patients from using tobacco, however, is that the heart itself has become affected by the nicotin action. The heart muscle is never strengthened by nicotin, but is always weakened by excessive indulgence in nicotin, the nerves of the heart being probably disturbed, if not actually injured.[1] The positive symptoms of the overuse of tobacco on the heart are attacks of palpitation on exertion lasting perhaps but a short time, sharp stinging pains in the region of the heart, less firmness of the apex-beat, perhaps irregularity of the heart, and cold hands and feet. Clammy perspiration frequently occurs, more especially on the hands. Before the heart muscle actually weakens, the blood-pressure has been increased more or less constantly, perhaps permanently, until such time as the left ventricle fails. The left ventricle from tobacco alone, without any other assignable cause, may become dilated and the mitral valve become insufficient. Before the heart has been injured to this extent the patient learns that he cannot lie on his left side at night without discomfort, that exertion causes palpitation, and that he frequently has an irregularly acting heart and an irregular pulse. He may have cramps in his legs, leg-aches and cold hands and feet from an imperfect systemic circulation. In this condition if tobacco is entirely stopped, and the patient put on digitalis and given the usual careful advice as to eating, drinking, exertion, exercise and rest, such a heart will generally improve, acquire its normal tone, and the mitral valve become again sufficient, and to all intents and purposes the patient becomes well.

On the other hand, a heart under the overuse of tobacco may show no signs of disability, but its reserve energy is impaired and when a serious illness occurs, when an operation with the necessary anesthesia must be endured or when any other sudden strain is put on this heart, it goes to pieces and fails more readily than a heart that has not been so damaged.

If a patient does not show such cardiac weakness but has high tension, the danger of hypertension is increased by his use of tobacco, and certainly in hypertension tobacco should be prohibited. The nicotin is doing two things for him that are serious; first, it is raising his blood-pressure, and second, it will sooner or later weaken his heart, which may be weakened by the high blood-pressure alone. Nevertheless a patient who is a habitual user of tobacco and has circulatory failure noted more especially about or during convalescence from a serious illness, particularly pneumonia, may best be improved by being allowed to smoke at regular intervals and in the amount that seems sufficient. Such patients sometimes rapidly improve when their previous circulatory weakness has been a subject of serious worry. Even such patients who were actually collapsed have been saved by the use of tobacco.

Whether the tobacco in a given patient shall be withdrawn absolutely, or only modified in amount, depends entirely on the individual case. As above stated, no rule can be laid down as to what is enough and what is too much. Theoretically, two or three cigars a day is moderate, and anything more than five cigars a day is excessive; even one cigar a day may be too much.

(To be continued)

Relative Cost of Health and War.—To kill a soldier in war, according to statistics based on the late unpleasantness between the British and the Boers in South Africa, cost forty thousand dollars. To save the life of a citizen in the Panama Canal Zone costs $2.43 per capita of population, reports Colonel Gorgas, head of the sanitary force of the Zone. From which it would seem that it is much more economical to save a citizen than it is to kill a soldier. But we are so blind that while we willingly tax ourselves hundreds of millions of dollars to carry on a war, we grudgingly give up a paltry sum for the support of health boards—so little, indeed, that the health boards are unable to do much more than give advice, which advice is usually not acted on to any noticeable extent.—*Druggists Cir r.*

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[1] Those who wish to read further of the general physiologic effects of tobacco are referred to our article in this department, May 8, 1909, p. 1495, and to an editorial on "Some New Evidence on the Tobacco Question," THE JOURNAL, Nov. 16, 1912, p. 1798.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

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SATURDAY, MARCH 15, 1913

THE BLOOD IN ANAPHYLACTIC SHOCK

Under the influence of scientific investigation the unique biologic phenomenon which has been designated as anaphylaxis is slowly beginning to unfold its character and disclose the underlying chemical reactions which are responsible for its remarkable manifestations. It has previously been noted that the injection of foreign protein into the circulation is followed by a noteworthy response in the nature of the appearance of enzymes of the proteolytic type capable of digesting the new substance introduced into the blood. One is at once inclined to ask the significance of the newly developed plasma enzyme. Is it provided by the organism to disintegrate the foreign protein and thus give an opportunity for its physiologic removal from the blood-stream? And, if so, are the proteolytic digestion products responsible for the phenomena of the so-called anaphylactic shock? It is well known that the protein derivatives of the proteose or peptone type are capable of inciting in animals responses which have much in common with the anaphylactic collapse seen in certain species.

The existence of a latent period between the injection of the sensitizing dose of protein and the actual exhibition of the condition of hypersensitiveness has complicated the experimental analysis of the situation and rendered a hypothesis much more difficult to formulate. The acquired proteolytic power of the serum may be manifested very soon after the first injection, so that it becomes evident that the presence of the enzyme and of the foreign protein in the circulation does not of itself suffice to occasion the anaphylactic shock.

It has been observed, furthermore, that during the stage of so-called anti-anaphylaxis the capacity of the serum to digest the sensitizing protein is largely or entirely lost. Abderhalden[1] has lately examined the blood of sensitized guinea-pigs which were reinjected after an interval of eighteen days. He observed that in blood removed within half an hour after the reinjection the presence of diffusible (peptone-like) compounds giving the biuret reaction could be shown in the serum obtained. The possibility of the formation of peptone in the circulation during the stage of anaphylactic shock was thus demonstrated. The practical importance of this finding in a clinical way becomes apparent. The possibility of detecting proteolytic enzymes in the blood-serum enables one to foretell the danger of an anaphylactic collapse if a second injection of a previously used antigen is attempted. Inasmuch as the method — incubation of the serum and dialysis, followed by examination of the diffusate for protein by the biuret or some other delicate test — is quite within the possibilities of clinical use, it may turn out to be feasible hereafter, by the simple expedient of a diagnostic laboratory test, to avoid the hidden dangers of anaphylactic response which lurk unsuspected in the blood.

HEALTH OF THE AMERICAN INDIAN

In spite of the fact that the Office of Indian Affairs has recently made its eighty-first annual report to the Secretary of the Interior,[1] it is only in the last few years that the United States government has fully recognized its obligations to the redskin. The present policies are admirable even though of recent development. They center about the individual Indian and Indian family. It is their endeavor to educate each Indian in a knowledge of health and sanitation which will prolong his race and fit him in reality to associate and compete with white Americans. They seek either to place each Indian on a piece of land of his own, on which he can support his family, or to give him an equivalent opportunity in some industry or trade.

The last decade has seen a notable increase in the total school attendance of Indian children in government, public and mission schools, from 24,120 in 1902 to 39,397 in 1911; and yet in 1911 there were 24,000 Indian children of school age who were not in any school. In the past year special attention has been paid to the health and physical development of Indian pupils, and the Indian Office has sought particularly to deal effectively with the need for social and recreational development among the Indians. Along this line was the work of a committee appointed by the Russell Sage Foundation and the National Recreation and Playground Association to cooperate with the government bureau in a study of the communal life of the Indians, especially as to their recreations and social activities. In the Indian school dormitories out-door sleeping-porches are being made a feature; 500 cubic feet of air-space per child is the minimum allowed in the dormitories.

As in all primitive races, alcohol is one of the Indian's deadliest foes, and to keep it from him requires unceasing vigilance. During the year 1912, 1,480 cases of illegal supplying of liquor to Indians were prosecuted, in addition to 846 pending from the previous year. In these there were 1,002 convictions, 267 dismissals and 32 acquittals. From the point of view of the public health of the Indian, the introduction of alcoholic liquors among them is a most serious question, and the efficient enforcement of the national laws forbidding it is to be commended. It is of interest to note that during 1912 a conviction was secured for this offense in Washington, D. C., showing that the Indian's thirst for alcohol follows *him far from home, that he can obtain it in the* very shadow of the capitol, and that the law is applicable everywhere.

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[1] Abderhalden, E.: Weitere Studien über Anaphylaxie, Ztschr. f. physiol. Chem., 1912, lxxxii, 109

[1] Ann. Rep. 1913, Indian Office, Dept. of the Interior.

In 1912 the Indian Office had under its supervision 300,930 Indians;[2] in recent years the Indian population has been steadily increasing. The accompanying tables, supplied by the Commissioner of Indian Affairs, indicate a steadily progressing increase in the Indian population, and show the changes in the numerical strength of tribes in which there was a marked increase or decrease. In general, health conditions in schools and on reservations are far from satisfactory, even though definite progress is being made. The death-rate in the Indian country is 35 per thousand, as compared with 15 per thousand for the country as a whole. No exact figures are as yet available for the infant mortality, but it is very high.

Tuberculosis was probably the most destructive disease. Of 42,645 Indians examined for disease last year, 6,870, or 16.11 per cent., were tuberculous. On the White Earth Reservation in Minnesota 600 out of 3,300 Indians had tuberculosis. On the Blackfeet Reservation in Montana, one-third of those examined had the disease. Of the total population of the Colorado River Reservation in Arizona, 20 per cent. had tuberculosis. At the Mescalero Reservation School in New Mexico, where the climate is nearly ideal, 5 per cent. of the children were tuberculous. Over one-fourth of the Indians of the Pine Ridge Reservation in South Dakota had tuberculosis. Even in southern California over 10 per cent. of the Indians suffer from the disease. Yet in all the United States there is no tuberculosis sanatorium for adult Indians, and there is provision for only 175 children of school age with incipient tuberculosis.

During the year a prize composition contest was held for special study and papers on tuberculosis. About 20,000 Indian children competed, and 561 prizes were awarded. Wide-spread interest in health and hygiene was aroused by this means. The three tuberculosis sanatorium schools were improved and enlarged. The one at Fort Lapwai, Idaho, can now accommodate 100 children. The Phoenix sanatorium in New Mexico is now of distinct value in caring for incipient cases in the Southwest. The sanatorium at Laguna, New Mexico, meets the need of those cases requiring an institution at a high altitude.

Of the 42,645 Indians examined, over 16 per cent. were likewise suffering from trachoma, and on the Kiowa, Comanche and Apache reservations 71 per cent. of the schoolchildren had trachoma. The Indian Service is developing a corps of ophthalmologists to cope with these conditions. Under their direct supervision last year over 3,000 patients were operated on and over 8,000 were treated by the regular school and agency physicians.

The campaign of education in health and hygienic living has been continued by means of stereopticon lectures, pamphlets, school training, and through the medium of visiting nurses, field matrons and women industrial teachers. It is hoped soon to make provision for dental services by means of traveling dentists or by contract with local dentists when practicable.

For the fiscal year 1913 an appropriation of $250,000 has been asked from Congress to defray the expenses of a special health campaign, but only a part of this has so far been granted. Full provision for this work cannot be too earnestly urged. The Indian medical service is sadly underpaid and overworked, and is totally unable in its present status to cope with existing conditions successfully. The inferior pay and small chance for promotion[3] do not attract the best class of candidates. Congress should see to it that these things are speedily remedied.

TABLE 1.—STATISTICS OF INDIAN POPULATION

Fiscal Year	Indian Population	Indians Under Supervision Indian Office, Including Five Civilized Tribes	Indians Within Reach of Contract or Regular Physicians	Indians Receiving Medical Relief from Indian Office
1903	263,233	241,252	*	*
1904	274,206	246,855	*	*
1905	284,079	256,415	*	*
1906	291,581	264,596	*	*
1907	298,472	264,227	*	*
1908	300,412	269,192	*	40,000†
1909	300,545	*	172,707	45,000†
1910	304,950	272,664	175,218	50,000†
1911	322,715	296,320	176,796	55,000†
1912	327,425	300,930	176,476	60,000†

* No record. † Estimated.

TABLE 2.—CHANGES IN THE STRENGTH OF TRIBES

Name of Tribe and State	Population 1902	Population 1912	Increase (+) or Decrease (—)
Eastern Cherokee, North Carolina..	1,431	2,078	+ 647
Navajo, Arizona and New Mexico..	21,837	30,244	+8,407
Piegan, Blackfeet, Montana.......	2,082	2,613	+ 531
Pueblo, Arizona and New Mexico...	8,334	9,349	+1,015
Sioux, South Dakota............	17,103	20,333	+3,230
Yakima, Washington	2,313	3,046	+ 733
Confederated, Flathead, Montana...	2,581	2,281	— 300
Crows, Montana	1,870	1,731	— 139
Jicarilla-Apache, New Mexico......	802	680	— 122
Uinta, Uncompahgre and White River Ute, Utah..............	1,661	1,183	— 478
Winnebago, Wisconsin	1,377	1,243	— 134

THE NUTRITION INVESTIGATION OF THE ILLINOIS PELLAGRA COMMISSION

The report of the biochemical work under the auspices of the Illinois Pellagra Commission[1] includes a series of dietary studies by A. F. Wussow and H. S. Grindley of the University of Illinois. These were conducted at the Peoria State Hospital where the ravages of pellagra have been particularly noticeable. It has been impossible hitherto to extend these nutrition investigations very far; nor have they, as yet, thrown any light on the etiology of the baffling disease. Incidentally, however, the presumable nutritive value of certain typical dietaries furnished to inmates of a large state charitable institution can be estimated from the statistics which have been compiled. Perhaps when similar data have been collected from other comparable institutions in which pellagra has not appeared, something regarding its possible relation to diet will come to light.

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[2] In the editorial Health Work Among Indians, The Journal A. M. A., May 18, 1912, p. 1515, the number was given as 310,926. This was taken from the latest available encyclopedic reference.

[3] Compare Physicians in the Indian Service, Current Comment, The Journal A. M. A., Feb. 8 [illegible] 454.

[1] A condensed report [illegible] Pe[illegible] given in the Archives of I[illegible] 1912, pp. 123, 219.

Whatever the result may be, these new studies have an independent value in connection with the debated problem of the dietary standards which prevail or which should be adopted for public institutions such as hospitals for the insane. It may be replied that there is no dearth of statistics to serve as guides in this matter. If this be admitted in a general way, it must at once be added that the facts and figures available are in many cases of limited value. Practically all of the earlier results were determined from statistics of the food-supplies and average populations taken from the books of the institution, and not ascertained by actual experiment. Atwater showed in one instance that the discrepancies between such crude estimates and the more accurate determinations of actual food consumption may amount to 33 per cent.

Although there is a fairly general agreement among students of nutrition regarding the total energy requirement of healthy men under various conditions of activity, one finds less unanimity when the protein needs are taken into consideration. Without attempting at this time to defend or define either a "high" or a "low" protein plane as the optimum of nutritive success, we shall content ourselves with the facts ascertained at Peoria. The nutritive values of the food consumed in the "general" diet at the Illinois institution averaged 73 gm. of protein and 2,568 calories per man per day. These figures are for the entire hospital population, including employees. They are distinctly lower than the "standards" usually assigned, and somewhat lower than the figures reported in earlier dietary studies in similar American institutions.[2] The most unusual feature of the Peoria study is the fact that the diet was chiefly vegetable in nature. Whereas in the average American dietary animal foods constitute nearly 40 per cent. and vegetable products about 60 per cent. of the ingredients, in the Peoria institution only 8 per cent. consisted of foods of animal origin.

It is well known that comparatively inactive persons, such as constitute the usual groups of the insane, require less food than hard-working persons. Yet when one takes into consideration the moderate total intake in the daily dietary of the hospital cited, as well as the reputed lower digestibility of a diet containing a large proportion of vegetable foods, it may be questioned whether the total amount of the nutrients furnished should not be increased or at least their character altered. This is the general conclusion tentatively reached by the Illinois report. Allowing a safe margin and taking into consideration the needs of the ordinary patients rather than those of the more active employees or extreme invalids, the following provisional standard is proposed: per man per day: protein, 90 gm.; energy, 2,700 calories; per woman per day: protein, 72 gm.; energy, 2,200 calories. To these must be added a fair allowance for waste and shrinkage which should not exceed from 12 to 15 per cent.

Other more specific recommendations are also made. It is suggested that in consideration of the character of the people for whom the standard is designed, at least 40 or 50 per cent. of the protein of the diet should be derived from animal foods. By this is not meant meats exclusively. Eggs, milk and other dairy products may be included. The diet should at all times possess a variety; especially should it contain an abundance of fresh fruits and vegetables, in season, to insure an abundance of desirable food "accessories" and mineral nutrients. The Illinois report suggests that since practically each state institution has its own large gardens and farms, it ought not to be a difficult matter to furnish the provisions just cited. Further recommendations regarding the preparation and serving of food and other hygienic features are self-evident.

Additional data have been secured in regard to special corn diets and corn-free diets used in the Peoria Hospital. They give no immediate clue to the solution of the pellagra problem, and these dietaries as furnished certainly cannot be considered as excessive, although probably adequate for the patients' needs. Judged by the moisture content, acidity, the presence of molds and other microorganisms, and the presence of insects, the corn-meal used in the Illinois state institutions appears, on the average, to be of good grade. It was found to be of better quality than the corn-meal obtained from a number of other sources, including Alabama and Italy. Quite aside from any contribution to the pellagra question, the broader problems of diet in public institutions are well worthy of continued investigation by methods which are accurate and persons who are competent.

IS "BOB VEAL" TOXIC?

Laws which are in force in various countries, notably in the United States, forbid the sale of veal under one month of age for use as human food. There is a widespread belief that "bob veal," as the flesh of these very young calves is popularly called, has properties detrimental to health so that its consumption is liable to be followed by untoward symptoms. Diarrhea is occasionally ascribed to the ingestion of young veal. An inspection of representative books on hygiene fails to disclose any evidence for the justification of this popular notion regarding bob veal. It is well known that the flesh of younger animals is richer in water and more tender than that of older ones of the same species. The proportion of the nutrient substances increases with age. Older animals likewise yield more of the extractive bodies; so that soup prepared from veal is by no means comparable with that yielded by the meat of fattened cattle. Veal is commonly regarded as more difficult of digestion than beef, the reason being assigned to differences in the texture of the flesh.

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[2] Compare Atwater, W. O.: Dietaries for Hospitals for the Insane, Final Report, Thirteenth Annual Report, State Commission in Lunacy, New York, 1900-1901; Dietary Studies in the Connecticut Hospital for the Insane, Annual Report, Conn. Agric. Exper. Sta., Storrs, 1899. Pratt, H. A., and Milner, R. D.: Dietary Studies at the Government Hospital for the Insane, Bull. 150, Office Exper. Sta., U. S. Dept. Agric., 1904. Knight, Pratt and Langworthy: Dietary Studies in Public Institutions in Baltimore, Bull. 223, Office Exper. Sta., U. S. Dept. Agric., 1910.

Prof. P. A. Fish of Cornell University has reported a series of experiments in which bob veal was compared with market veal and with beef in respect to some of its properties.[1] Although the experiments indicate quite a satisfactory line of demarcation between the younger bob and older veal, there are occasional individual exceptions, and the method of distinguishing between old and young veal as yet cannot, therefore, be declared infallible. Dietetic experiments were also carried on in which bob veal was eaten in seven families aggregating twenty individuals ranging from 2 to 60 years of age. The statement that the flesh of bob veal has a laxative effect and induces diarrhea was not confirmed in a single instance throughout the work. The health in all cases was apparently normal; nor did any family refuse a second helping when another carcass became available.

In all veal there is a deficiency of fat as compared with beef. In bob veal this deficiency is naturally somewhat more pronounced, because fat is a result of growth and age under proper nutritive conditions. In the use of bob veal this deficiency may be overcome to a considerable extent by cooking the veal with pork or other fat.

Professor Fish is of the opinion that bob veal is in no way injurious when used as human food. The desirability of changing the present regulations and existing legal restrictions regarding the sale of very young veal is thus thrown open for discussion. The subject is one which should not be dismissed or settled by a few haphazard experiments or hasty generalizations.

GOVERNOR SULZER'S SPECIAL MESSAGE ON PUBLIC HEALTH

One of the most significant occurrences of the winter in the public health campaign is the report of the special commission appointed by Governor Sulzer on public health in the state of New York, and the transmission of the report to the state legislature by the governor, accompanied by a special message, pointing out the importance of this subject. This is probably the first time a state executive has taken such an advanced position regarding the duty of the state to protect the lives and health of its citizens. The governor's message opens with the statement that the protection of the life and the promotion of the health of its citizens are among the first duties of the state, and that there is no more important subject in public administration than public health. After reviewing the circumstances which led to the appointment of the special commission, the work which it has done and the character of the report which it has made, the message then criticizes the present public health administration in the state of New York. In order to permit of a comparison between the conditions which Governor Sulzer describes and those found in other states, it must be borne in mind that New York has probably one of the most effective health departments in the country, and that if such conditions are found in the Empire State, the situation in most of the other states is probably worse.

Governor Sulzer points out that there is no well-coordinated system of public health administration in the state, and that the local boards of health, consisting of the county supervisor, justice of the peace and other local authorities, can hardly be regarded as qualified agencies for stamping out disease. He also asserts that there is no reason why, under proper management, the death-rate in the country should not be much lower than that in the city. He further shows that the fees paid to members of town and village boards of health amount to from $70,000 to $100,000 per year, for which expenditure no results are obtained. He is particularly emphatic in showing the economic value of modern public health administration. "An outbreak of small-pox in any city or village involves serious losses to its business men, most of which are clearly avoidable. It may be conservatively stated that the saving that would result from the efficient control of preventable diseases other than tuberculosis throughout the state would be not less than $10,000,000 per year. Efficient public health administration pays. The motto of the New York City Health Department, 'Public health is purchasable within natural limitations, and any community can determine its own death-rate,' should be made the motto of the state."

After reviewing the results of the campaign against tuberculosis, and asserting that "the people have determined that tuberculosis must be conquered," the governor adds: "Another thing: The loss of 7,000 babies in this state per annum must be stopped. The remedy is simple—state-wide registration of births, and in industrial centers a sufficient number of infant-welfare stations." Every reader will doubtless agree with him that 1,128 deaths per annum from typhoid fever is at least 1,000 too many, and that by controlling infectious diseases, and by creating increased interest in public health, the average of physical vigor, efficiency and productiveness can be greatly increased.

Regarding the report of the commission itself, nineteen special recommendations are made for immediate consideration. The more important of these are:

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[1] Fish, P. A.: Bob Veal and the Public, Am. Vet. Rev., 1912, xli, 178.

That the term of office and compensation of the state health commissioner be made such as to secure and retain the most efficient man available for that purpose.

That a public health council be established with power to adopt sanitary regulations.

That the state commissioner of health exercise supervision over local health authorities.

That the state outside of New York City be divided into at least twenty sanitary districts with an expert sanitary supervisor in each, devoting his full time to health work.

That the health officers in towns and villages receive an annual minimum salary equivalent to at least fifteen cents per inhabitant.

That the model law on vital statistics, with such changes as may be necessary, be substituted for the present law.

That each city and county be authorized to employ trained nurses for the care of the sick.

That a bureau of child hygiene and a bureau of public health nursing be added to the State Department of Health.

Other recommendations are: state provision for incipient cases of tuberculosis, county hospitals for tuberculosis, adequate laboratory facilities, local contagious disease hospitals and extension of the educational work of the State Department of Health.

In addition to the subjects covered in its positive recommendations, the commission also states that there are a number of questions of great importance which should be taken up at the earliest possible moment, but on which it is not yet ready to report. These subjects include the establishment in medical colleges of systematic courses of instruction in sanitary science, the requiring of a health certificate as a condition for a marriage-license, the establishment of industrial plants in connection with tuberculosis hospitals, a general study of the results of sanatorium treatment of tuberculosis, the regulation of housing in cities of the second and third classes, and the better protection of water-supplies.

RAILWAY SANITATION

The advance of the railways of the country in applied sanitation has been marked. When one recalls the conditions allowed to exist in railway cars twenty years ago the present state of cleanliness is comparatively satisfactory. The railways are indeed to be commended for their gradual introduction of hygienic regulations that keep their cars, in spite of the numbers of people who travel in them every day, in a state that is not likely to endanger health. There remains, however, one phase of railway sanitation that will soon have to be dealt with; though it is a difficult phase, there is no doubt that improvement of present conditions must come without delay. It would seem to be better for the railways to take up the problem of their own initiative rather than be forced into it by legal regulation.

We are referring to the present mode of disposing of the sewage of trains. In former years when population was less dense and when trains were not nearly so frequent and crowded, it was perhaps not so much to be deprecated that the railways should scatter sewage over the right of way. Now that railways cross thickly populated tracts of territory, and express-trains pass through towns of considerable size without stopping, the crude disregard of hygiene in this matter is entirely out of keeping with present-day sanitary science, particularly as the railway rule is to have the toilets locked only during the times of stopping at stations, which gives opportunity for the scattering of offensive material, distinctly dangerous to health, even on the streets of towns.

There is danger in the present arrangement in the fact that railways frequently cross streams that are connected with water-supplies, and the present custom of disposing of the contents of railway water-closets may well prove a source of contamination of drinking-water. It will not be long before the general public wakes up to this serious danger. Now that we are carefully disposing of sewage in connection with our cities and are no longer allowing ordinary waterways to be contaminated as they formerly were, protection of our smaller streams will surely come to be felt as a necessity.

At present the Pullman Company makes arrangements for the disposal of sewage when cars stand on sidings in smaller towns waiting to be picked up by through express-trains during the night. There is no reason why there should not be an extension of this system that will protect the public, especially its water-supplies. Already boards of health in certain states have issued orders that water-closets shall be closed in certain portions of the state in which there is obvious danger of the contamination of the water-supply. This is of course only a makeshift, and most of us would have little confidence in the absolute safety afforded by any such arrangement. Undoubtedly the proper disposal of sewage would be somewhat expensive and would require special appliances. One device for this purpose is already on the market, and doubtless American inventive genius can be depended on to work out others.

PNEUMONIA PREVENTION

The end of the winter, far from bringing a termination to the danger from pneumonia, in reality marks the beginning of the season when this disease becomes an extremely serious cause of increase of mortality. This is true particularly in large cities. In recent years this increase has become more and more marked and is all the more striking because of the decrease in deaths from other infectious diseases. Pneumonia has been aptly termed the "Captain of the Men of Death," displacing tuberculosis which for so long occupied that "bad eminence."

It is not too much to say that the most important problem before the medical profession at present is the reduction of the death-rate from pneumonia. Considering the nature of the disease and the intense strain which it imposes on the heart, it is probable that the only hopeful outlook for any considerable reduction in pneumonia mortality is through the prevention of the disease. The prospect of a cure for it, in the popular sense of that term, has grown less as we have learned more about the disease. Especially in the case of those in whom the disease is complicated by any affection of the heart, kidneys or lungs the prognosis is always most unfavorable. Once the disease has begun, we have to deal with an ever-increasing mechanical difficulty which only a vigorous constitution can hope to overcome.

While the incidence of pneumonia is greatest during the colder portion of the year it is not dependent entirely on low temperature. The disease occurs at all seasons and in all climates. It does not work its greatest ravages in the colder climates, but is rather rare in the cold of high altitudes and is almost never known to occur within the Arctic circle. In spite of all their suffering from cold, Arctic explorers escape this danger. Hence we must assume that cold acts in conjunction with some other factor in the production of the disease. Pneumonia is favored by lack of sunlight and it occurs among those who are much exposed to dust or who have to breathe the emanations from the lungs of other people. Catarrhal processes affecting the air passages prepare the soil for the implantation of the germ of pneumonia. It is particularly a disease of city life and crowded living.

The ubiquity of the bacterial cause of pneumonia, which often exists in the bronchi for a variable time without causing the disease, indicates that it alone is incapable of producing pneumonia. The so-called predisposing causes, therefore, assume a peculiar importance because they are measurably under our control, while for the present the pneumococcus is beyond our reach.

With our present knowledge the prospects are hopeful for the control of pneumonia in the future. Our housing problems in the large cities are being slowly but surely solved, and doubtless before long most of the poor will be housed nearly as well as the laborers at Panama. At least health regulations will prevent that crowding of sleeping- and living-apartments which makes rebreathing of air inevitable. The improvement of means of rapid transit in the large cities will enable an increasing number of persons to live in the suburbs; besides there is a definite movement on the part of manufacturers to establish themselves in suburban territory and draw their employees around them, rather than to settle in a crowded neighborhood as heretofore, because in such a neighborhood labor is abundant and cheap.

There is special significance for the individual in these observations on the prevention of pneumonia. Its avoidance is largely a question of personal prophylaxis and of certain precautions that prevent the development of the disease by lessening the predisposition to it. Men in middle life, particularly those above 50, must learn during unsettled weather to avoid crowds, especially when fatigued and when they have been for a number of hours without eating. Late at night, when for any reason a meal has been missed, crowds are dangerous. If this lesson could be generally learned there would be less pneumonia among the well-to-do classes. The principal danger comes in crowded street-cars, which if possible should be avoided at rush hours. It needs to be emphasized that the danger from overcrowding is greatly enhanced by fatigue and going without food. In a word, the prophylaxis of pneumonia is now much clearer than it was. Like all the other infectious diseases, instead of being a more or less inevitable dispensation it has come to be recognized as due to certain definite factors which can be greatly lessened by public and individual hygienic regulations.

Current Comment

DRUG JOURNALS—HIGH CLASS AND OTHERWISE

The "patent-medicine" curse stands in the same relation to pharmacy as the "ethical proprietary" evil to medicine. The "proprietary" encourages unscientific prescribing and careless diagnoses on the part of the physician; the "patent medicine" leads many druggists to assume the functions of the physician and to prescribe for diseases of which they are ignorant. Fortunately there are signs of better things in both professions. As the more enlightened physicians, with the aid of the better medical journals, are striving to remove the blight of the proprietary evil, so the better class of pharmacists with the cooperation of a few high-grade drug journals, are doing their best to abolish the "patent-medicine" curse. Among the pharmaceutical publications that are doing good service to the profession they represent, the *Druggists Circular* of New York occupies a preeminent position. This journal stands for all that is best in pharmacy, exposing the weak spots in the profession and unmasking pharmaceutical frauds without fear or favor. No better illustration of its attitude can be given than the following excerpt from an editorial in the current issue discussing "counter-prescribing" by druggists. The *Druggists Circular* says that "for a man who is not a duly licensed physician to hold himself out as being able to give professional advice about bodily ailments, especially such insidious diseases as diabetes, and by so doing to hinder the sufferer from taking a course which might lead to his cure or improvement, comes perilously near to being murder." The editorial continues: "The time has passed, if it ever existed, when the druggist who undertakes to prescribe for diabet can shield himself
behind the 'poor innocen ts rthy o
name now understand
put up at wholesale
even so much as see

ing with diabetes is not the best thing for the patient to do. If there are any druggists who do not know this, the sooner they learn it the better it will be for humanity.". These sentiments, we believe, are those held by all right-thinking druggists. Unfortunately, there are drug journals that cater to the men to whom pharmacy is a trade instead of a profession. Just as in the medical world there are publications whose ethics rise no higher than the counting-house so in pharmacy there are drug journals that appeal essentially to the mercenary element in the profession. The *Meyer Brothers' Druggist,* a house organ published in Missouri, is typical of the latter. In the advertising pages of the February issue of this journal appears an advertisement of a cruel and worthless fraud, Fulton's Diabetic Compound. The advertisement which, of course, was addressed to druggists, ran as follows:

> *Patient.* "What have you that is good for kidney trouble?"
>
> *Druggist.* "Everything; all the standard preparations. But there is only one that gets such results that patients are requested to advise with them if not recovering. The rest sidestep such letters."
>
> Mr. Druggist, if you will change places with your customer and put yourself in front of the counter and imagine yourself having kidney trouble, can't you see that the above question and answer would settle the matter? In fact, isn't it the very information that you would be hungry for?
>
> The simple statement given above, as small as it is, is selling a gross a year for druggists even in villages.

This miserable suggestion for "counter-prescribing" may be followed by a certain type of druggists. To such as would do so, we commend the sentiments expressed by the editor of the *Druggists Circular.* He holds that the proper place for medicine-fakers — if they have any place outside of close confinement — is on a soap-box at the county fair, for he insists that there is no room for them within the honorable profession of pharmacy.

THE RIGHT WAY AND THE WRONG WAY

In the Medical Economics Department of this issue is a summary of a few of the bills introduced in the various state legislatures on public health topics. In California alone, over one hundred bills have been introduced. In Colorado between fifty and seventy-five measures of different kinds bearing on public health have been reported so far. Most of these bills are drawn by persons with but slight knowledge of the sociologic problems involved, without any experience in sanitary matters, and often with little knowledge of existing conditions in the state. The results of legislation produced under such conditions can be only what they have been for the last fifty years, namely, confusion and inefficiency. As shown in one of the preceding editorials, Governor Sulzer and his special commission have adopted a better plan. The people of New York will reap the advantages. It is earnestly to be hoped that governors of other states will profit by this example, and will endeavor to elevate health conditions by a careful and intelligent inquiry into existing facts and the devising of adequate methods by which these conditions can be remedied, rather than by the presentation of a mass of hastily-drafted, ill-digested measures on every conceivable phase of public health regulation. The weaknesses of our method, or rather lack of method, of enacting health laws are common to our entire legislative system. Physicians as practical scientists should lead the way in devising better and more accurate methods for health organization.

PRACTICAL PSYCHOTHERAPY

The need is great for sympathy and insight to perceive all aspects of cases which involve the mind as well as the body, and for a philosophy whereby a physician shall himself "see life steadily," and also "see it whole," and so assist his patient to a like view. To dispel false ideas which surround death with horror is surely an obvious duty; equally obligatory is it, when discussion is not feasible, to fill a patient's thoughts with all that can make his remaining life peaceful and happy. The belief is too general that psychotherapy consists in deceiving the patient for his own good. This is the method of a charlatan — but in such a rôle a physician can never be more than an amateur; for the charlatan succeeds best when he first deceives himself, and the true physician, not able for an instant to deceive himself, is but ill adapted to an elaborate deceiving of others. The physician who has a unifying philosophy of his own is thereby able to dispense with makeshifts and to speak convincingly to his patients, administering hope with truth, courage with frankness — and his sincerity will deepen public confidence. This confidence, surely due to science and disinterested motives, is often sacrificed unwittingly by the physician himself. He administers a therapeutic lie at the earnest solicitation of the patient's friends. Presently one of those friends falls ill, and the physician is puzzled to know why this new patient fails to respond to his words of encouragement and good cheer. The physician whose statements, uniformly squaring with facts, bear witness to his skill and to his sincerity, is the only one fitted to command the respect of the public and to inspire his patients with confidence in himself and hence with faith in his words.

THE SEAT OF HYDROCHLORIC ACID FORMATION IN THE STOMACH

Not long ago[1] we called attention to the recent contentions that, contrary to the current assumption, free hydrochloric acid is not formed within the cells of the gastric mucous membrane, but is presumably liberated on its surface. The parietal cells, to which the function of acid production has usually been assigned by a sort of process of exclusion, are neutral or alkaline even when hydrochloric acid is making its appearance in the interior of the stomach. Dr. López-Suárez[2] has gone a step further and asserts that the parietal cells are not primarily concerned in the acid production. It may reasonably be expected that the portions of the mucosa involved in the formation of hydrochloric acid or its precursor must contain a store of chlorid in some form. These newer observations, made by microchemical methods, indicate that in contrast with the chief cells of the gastric glands the parietal cells are either devoid of chlorid or at any rate very deficient therein. The question of their actual function is thus again brought into debate as it was many years ago. They may, of course, exert an indirect influence on the secretory act. The rapidity with which the act of secretion supervenes on a stimulus sent to the stomach makes it more than probable that the precursor of the hydrochloric acid — whether it be a simple chlorid or some labile organic chlorin compound — is stored in some abundance in the cells in readiness for the speedy functional response. If this be true, then those regions of the mucosa in which acid production is localized should exhibit a greater richness in chlorin than does the remainder of the secretory membrane. The hypothesis appears to be in correspondence with the facts, for the fundus portion as a rule has a larger content of chlorin than does the membrane of the pyloric region where the secretion is frequently alkaline in reaction. The contrasts are not large, yet they are sufficiently distinct to merit further consideration. Perhaps the chemical physiology of gastric secretion will experience some decided revision in the near future.

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[1] The Hydrochloric Acid of the Gastric Secretion, editorial. The Journal A. M. A., Jan. 25, 1913, p. 284.

[2] López-Suárez, J.: Zur Kenntnis der Salzsäurebildung im Magen, Biochem. Ztschr., 1912, xlvi, 490.

THE ENZYME CONTENT OF SALIVA

The question of variations in the amylolytic power of the saliva is scarcely one that is likely to elicit the interest of physicians. The saliva of practically all human individuals is so conspicuously endowed with starch-digesting power that minor percentage differences are at best of only incidental significance. Other features and functions of the secretion of the salivary glands quite overshadow this one. From a purely theoretical aspect certain features involving variations in the output of enzyme deserve more than passing notice. Not only have alterations in the digestive efficiency of the saliva been associated with different periods of the day, with the ingestion of food, with sex and with age, but it has repeatedly been alleged that there is some relation between the character of the diet and the relative richness of the saliva in enzyme. This statement involves more than appears on the surface. It virtually postulates that our digestive secretions are wonderfully responsive to the character of the food intake. Here, then, is a sort of adaptation to diet. Every assumption of this sort deserves the closest scrutiny and calls for corroboratory investigation; for the principle of adaptation is one which may, if established, be applied to therapeutic ends. Diet has been credited with innumerable possibilities, and the readjustment of the functions thereby is one of the many. A recent investigation by Hirata[1] in Japan serves to confirm the contention of Mendel and his co-workers[2] in this country that as yet the evidence in relation to salivary adaptation belongs in the category of "not proven." Hirata maintains that the amylolytic power of human saliva collected at different periods of the day has essentially the same value. The variations are minimal. The digestive capacity remains unaltered by the incidence of meals and the character of the diet. It is independent of the volume of saliva secreted, of sex and (except in infancy) of age; neither have significant variations been made out in patients representing a series of diseased conditions. From the experience already on record, these negative findings are only what might have been expected.

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[1] Hirata, G.: Ueber die diastatische Kraft des menschlichen Mundspeichels, Biochem. Ztschr., 1912, xlvii, 167.

[2] Mendel, L. B., and Underhill, F. P.: Jour. Biol. Chem., 1907, iii, 135; Mendel: Medical Record, August 27, 1910.

Medical News

ALABAMA

Salvation Army Dispensary.—A free dispensary has been opened in Anniston under the auspices of the Salvation Army Drs. J. W. Landham and Baxter Rittenberry are in medical charge of the institution.

State Association Meeting.—Plans for the entertainment of the delegates in attendance at the annual meeting of the Medical Association of the State of Alabama, to be held in Mobile, April 15-17, include a ball game April 16, a reception for delegates and the ladies on the same evening and a boat ride down the bay, April 17. Dr. P. J. M. Acker is chairman of the committee on arrangements.

Memorial Hospital Opened.—The John A. Andrew Memorial Hospital at the Tuskegee Normal and Industrial Institute was formally opened and dedicated, February 21. The hospital, which was donated by the granddaughter of the war governor of Massachusetts has been erected at a cost of $50,000. At the dedicatory exercises, addresses were made by the Hon. Seth Low, chairman of the board of trustees of the institute; principal Booker T. Washington; Drs. John A. Kenney, medical director of the hospital; George C. Hall, Chicago; U. G. Mason, Birmingham, and W. A. Warfield, surgeon-in-chief of the Freedmen's Hospital, Washington, D. C. Clinics were held in connection with the dedication of the hospital under the direction of Dr. John A. Kenney, the medical director, the physicians named above, and Dr. C. V. Roman, Nashville, Tenn.

ARKANSAS

Bequeaths Professional Property to Physicians.—By the will of the late Dr. William Elza Green, Little Rock, his medical library is bequeathed to the physicians of the city, and his cabinet of surgical instruments and other instruments to his friends of the medical profession.

New Officers.—Pike County Medical Association at Delight, February 20: president, Dr. N. J. Slaughter, Delight; secretary-treasurer, Dr. R. Q. McClure, Glenwood.——Sevier County Medical Society at DeQueen: president, Dr. W. E. Wisdom; secretary-treasurer, Dr. C. E. Kitchens, both of De Queen.——Franklin County Medical Society at Ozark: president, Dr. W. M. Wear, Etna; secretary-treasurer, Dr. Thomas Douglass, Ozark.——Randolph County Medical Society at Pocahontas: president, Dr. H. L. Throgmorton; secretary, Dr. G. M. Black, both of Pocahontas.——Phillips County Medical Society at Helena: president, Dr. H. M. Thompson, Marvell; secretary, Dr. W. R. Orr, Helena.——Boone County Medical Society at Harrison: president, Dr. L. H. Callen, Bellefonte; secretary, Dr. F. B. Kirby, Harrison.

CALIFORNIA

Dinner to Dr. Moore.—Dr. B. F. Church, Redlands, gave a dinner, February 11, to forty physicians of that city in honor of Dr. Ross Moore, Los Angeles, who later made an address on "Diagnosis in Mental and Nervous Diseases."

Popular Medical Lectures.—Stanford University Medical Department will continue the series of lectures inaugurated by Cooper Medical College. The first was given February 7 by President Jordan on "Eugenics" and succeeding lectures are given on alternate Friday evenings.

Hospital Notes.—The cornerstone of Pomona Valley Hospital was laid at Pomona, February 8. The building is to cost $50,000 and will be a two-story and basement structure of fireproof construction.——*The College of Physicians and Surgeons* of the University of Southern California together with the Home Mission Society of the Methodist Episcopal Church, South, has established a free medical clinic at Seventh and Mimosa Streets, Los Angeles.——Dr. William D. Dunn, Imperial, has offered a tract [illegible] acres of land and [illegible] use to be used as a sanatoriu [illegible] tment of tub [illegible]

Personal.—Dr. J. L. [illegible] of in an automobile col

Santa Rosa, has returned after six months of study in Vienna.——Dr. Louis G. Reynolds, Sacramento, sailed for Europe, March 1.——Dr. M. V. Mulcahy, San Jose, has been appointed physician of the California Division of the Modern Woodmen of America.——Dr. Henry Sherry has been reelected president of the Pasadena Hospital Association.——Dr. Madeline E. Johns, San Francisco, was attacked by an insane man with murderous intent February 3, and seriously injured.

ILLINOIS

County Hospital Contract Awarded.—The St. Clair County Board of Supervisors, on March 1, awarded the contract for the building of the addition to the County Hospital, Belleville. The building will have extensive porches for tuberculosis patients and the expense of construction is estimated at about $15,000.

Trip to Panama.—Among those who made the trip to Panama under the auspices of the Illinois State Medical Association were the following: Dr. and Mrs. E. P. Raab, Belleville; Dr. and Mrs. E. J. Brown, Decatur; Dr. and Mrs. H. H. Roberts, Maywood; Dr. and Mrs. F. W. Werner, Joliet; Dr. and Mrs. Geo. M. Peairs, Joliet.

Antituberculosis Association Issues Bulletin.—The first issue of the *White Plague Bulletin*, published by the Winnebago County Antituberculosis Association, appeared last month. It is a four-page leaflet containing a list of the officers, a notice of the students' tuberculosis essay test, notes on the hygienic treatment of tuberculosis, and a report on the work which has been done by the local Visiting Nurses' Association during the year.

Medical College Transferred to University.—The ceremonies in connection with the formal transfer of the College of Physicians and Surgeons to the University of Illinois were held March 6. The principal address of the occasion was delivered by President James of the university; Dr. D. A. K. Steele, president of the college, handed over the deed and bill of sale to the university, and Mr. W. L. Abbott, president of the board of trustees of the university, accepted the gift. Addresses were also made by Dr. W. E. Quine, dean of the college, Dr. Arthur R. Edwards, dean of Northwestern University Medical School, and Dr. A. D. Bevan of Rush Medical College. It is announced that the present staff of instructors, lecturers and employees will be retained at least until June 30.

Personal.—Dr. Hartwell C. Howard, Champaign, has celebrated the sixty-third anniversary of his graduation from Starling Medical College. Dr. Howard is now said to be the oldest active practicing physician of the state.——Dr. Frederick K. Sidley, Peoria, was painfully injured in a street-car accident, February 28.——Dr. and Mrs. S. M. Wylie, Paxton, have returned from the South.——Dr. R. R. Greene, Braidwood, is ill at his home as the result of a cerebral hemorrhage.——Dr. C. C. Atherton, a member of the staff of the Elgin State Hospital, has been appointed senior physician at the Lincoln State School and Colony.——Dr. C. H. Ayling, Gridley, who has been ill with erysipelas, is reported to be improving.——Dr. Herman Milbacher, Aurora, sustained painful injuries in a fall, March 2.

Chicago

Additional Appropriation for Health Department.—The finance committee of the city council on March 5, voted to appropriate an additional sum of $15,000 for the fight against contagious diseases.

County Hospital Cornerstone Laid.—The cornerstone of the new Cook County Hospital was laid March 8. The dedicatory exercises were in charge of President A. A. McCormick of the board of county commissioners.

Tuberculosis Society Organized.—The Children's National Tuberculosis Society has been incorporated by Drs. C. Vermeren, C. B. Saunders and Paul Burmeister, to maintain camps and homes for the treatment of tuberculosis.

Personal.—During the stay of Dr. S. Weir Mitchell in Chicago, in addition to his address before the Physicians' Club, he was entertained at dinner by Dr. and Mrs. Nathan S. Davis and at a luncheon by Mrs. Cyrus Hall McCormick at which Dr. Mitchell read selections from his poems.——Dr. and Mrs. C. F. Klaus and son, Dr. and Mrs. C. C. Eldred, Drs. E. E. Kolar and F. J. Patera have started on a trip to the Canal Zone.——Dr. and Mrs. Frank X. Walls sailed for the Mediterranean, March 15.——Dr. Joseph Shanks has been appointed chairman of a committee to establish a free dispensary to the poor on the northwestern side of the city.

INDIANA

New Officers.—Indiana Society of Anesthetists: president, Dr. E. A. Guedel; secretary-treasurer, Dr. H. L. Connor, both of Indianapolis.

Hospital Opened.—The new St. Vincent's Hospital, Indianapolis, was opened for patients, February 15. It is a five-story fire-proof building occupying an entire block, and containing 325 rooms. Special operating-rooms have been equipped for the gynecologic and eye, ear, nose and throat departments and the hospital also has a large clinic amphitheater.

Personal.—Dr. Carleton B. McCulloch, Dr. and Mrs. J. Rilus Eastman and Dr. and Mrs. L. C. Cline, Indianapolis, have started on a trip to South America and the Canal Zone.——Dr. Henry Jamison, Indianapolis, has sailed for Italy.——Dr. Charles E. Ferguson, Indianapolis, is taking a pleasure trip to Egypt.——Dr. and Mrs. J. E. Hoover and Dr. John M. Cunningham, Indianapolis, who have been spending the winter in Florida, have returned.——Dr. H. B. Shacklett, New Albany, has been reelected a member of the board of directors of the Indiana Association for the Study and Prevention of Tuberculosis.——Dr. H. G. Morgan has been elected a vice-president and Dr. W. F. King, Indianapolis, secretary-treasurer of the Indiana Sanitary and Water-Supply Association.

KENTUCKY

Personal.—Dr. D. S. Roberts, West Point, was seriously injured in a runaway accident, February 28.——Dr. R. B. Gilbert, Louisville, was seriously and Dr. Amos Davis, Owensboro, slightly injured in a collision between the ambulance in which they were going to the Jewish Hospital and an automobile, February 27.——Dr. J. N. Powell, Corydon, is reported to be critically ill.——Dr. Charles W. Stroup, Ludlow, has been appointed a member of the clinical staff of the children's department of Miami Medical College, Cincinnati.

Vital Statistics.—By the report of Dr. J. N. McCormack, secretary of the State Board of Health, the birth returns for 1911 numbered 60,372, and for 1912, 61,199. The deaths for 1911 were 30,583, and for 1912, 29,649. The deaths from consumption for 1911 were 5,181, and for 1912, 4,728. Typhoid showed a reduction in prevalence and fatality, being 1,035 in 1911 and 758 in 1912. Diphtheria showed a slight gain, being 545 in 1911 and 687 in 1912. Cancer shows an increase, 909 in 1911 and 943 in 1912. The year 1912 shows 39 per cent. of the deaths were from diseases that can and ought to be prevented.

LOUISIANA

Leper at Calhoun.—Dr. Thomas E. Wright of the State Board of Health has discovered a case of leprosy in Calhoun. The diagnosis was confirmed by Dr. Isadore Dyer and the patient has been taken to the Lepers' Home for treatment.

Against Expectoration.—Dr. Oscar Dowling, president of the State Board of Health, has had distributed in New Orleans 5,000 signs warning the public against spitting on sidewalks in street cars and public places and that violators of this rule will be prosecuted.

Porter Holds Dual Position.—At the meeting of the State Board of Health, February 25, a motion was passed that Dr. Sidney S. Porter, chief of the Rockefeller Hookworm Commission, be elected to the position of chief sanitarian of the state irrespective of the position he at present holds.

Personal.—Dr. F. H. Carruth, Lobdell, fractured his right forearm March 1 while cranking his automobile.——Dr. Charles Faget, New Orleans, is reported to be seriously ill with diphtheria.——Dr. Wiltz M. Ledbetter, Shreveport, formerly city physician, is reported to be critically ill at the Shreveport City Hospital, following an operation for appendicitis.

Object to Importation of Charity Patients.—The authorities of Charity Hospital of New Orleans, under instructions from the board of administrators, has notified health officials of Mississippi and Alabama that the practice said to obtain in these states of sending their destitute sick to the hospital is considered an imposition and will no longer be permitted.

The New Hotel Dieu.—It is reported that the contract for erecting the new Hotel Dieu buildings has been awarded. This contract calls for the construction of the laundry, power-house, free clinic, operating wing to house the Bruguieres Memorial, and an addition with 100 beds. This contract calls for about $200,000 of the $500,000 to be expended in the construction of the institution.

Inspection Completed.—Dr. S. S. Goldwater, New York City, who has been making an inspection of the Charity Hospital, New Orleans, has completed his work and left for St. Louis and Cincinnati. Local members of the profession declare that Dr. Goldwater's visit has resulted in the elimination of opposing factions, and bringing up cooperation and work for the good of the institution. Dr. Goldwater's formal report will be forthcoming later.

French Hospital Dedicated.—The renovated and modernized French Hospital, New Orleans, one of the oldest institutions of its kind in the United States and conducted by the Société Française de Bienfaisance, was dedicated with simple ceremonies, February 23. The medical staff of the institution consists of Drs. George Joseph Tusson, Marion Sims Souchon, J. J. Laurans, A. D. Mouledous, O. L. Pothier, J. A. Estopinal and J. O. Weilbaecher.

MARYLAND

Baltimore

Children's Ward for Hospital.—A children's ward is planned at St. Joseph's Hospital to cost $18,000. Of this amount, $3,000 is already in hand.

Hospital for South Baltimore.—Plans for the South Baltimore Eye, Ear and Throat Charity Hospital are being selected, and it is reported that work on the new hospital will begin before April 1. It is to be a three-story building, 65 by 90 feet.

Personal.—Dr. John C. Hemmeter has recovered from his recent illness and resumed his lectures at the University of Maryland.——Dr. Henry Barton Jacobs has been reelected president of the Maryland Association for the Prevention and Relief of Tuberculosis.

Another College Merger.—The union of the University of Maryland Medical Department and the Baltimore Medical College is said to be practically assured, the faculties having agreed on the terms of merger. The members of the faculty of the latter institution will retain their positions in the new school and three of them will become members of the University Board of Regents. The merger will not take effect until after the present session and the terms of agreement will be submitted to the university regents next week.

MASSACHUSETTS

Plan Hospital for Palmer.—A meeting was held in the rooms of the Palmer Business and Social Club, February 14, to consider the establishment of a hospital in the town of Palmer.

New Hospital.—Mrs. Emma Wing has given her residence in Palmer to be used as a hospital for the city, and her daughter has agreed to defray the expense of building and equipping an operating department and pathologic laboratory.

Celebrates Anniversary.—Dr. William Sidney Severance, dean of the medical profession of Greenfield, entertained the members of the Greenfield Doctors' Club, February 19, at a banquet in honor of the sixtieth anniversary of his graduation in medicine.

Work of the Boston Dispensary.—The second issue of the *Boston Dispensary Quarterly* is devoted chiefly to the work of the dispensary in caring for children. The institution cared for more than 17,000 children during the last year. The children's work at the dispensary is divided into: the new hospital; the general medical out-patient clinic for the cure, study and prevention of the diseases and problems of infancy and childhood; the service in the various medical and surgical specialties, provided by the appropriate clinics of the dispensary; treatment of sick children in their homes, the only city-wide service of the kind in Boston, provided by its district physicians, who care annually for approximately 5,000 children, mostly cases of acute illness; the teaching of medical students of the Harvard and Tufts Medical schools, and the provision of opportunities for scientific research; social service, provided primarily through the Social Service Department, also through the Instructive District Nursing Association, and carefully worked-out plans of cooperation with the chief philanthropic, educational and municipal agencies in Boston; team work with the public school system; and cooperation with the school physicians and school nurses, by which about 4,000 school children annually are given needed treatment in its clinics, on reference from the medical authorities of the school system.

MISSOURI

Luncheon to Dr. Lumsden.—The St. Joseph-Buchanan County Medical Society gave a luncheon in honor of Surgeon L. L. Lumsden, U. S. P. H. S., March 6.

New Officers.—Barton County Medical Society at Lamar: president, Dr. G. D. Allee; secretary-treasurer, Dr. A. B. Stone, both of Lamar.——Lafayette County Medical Society at Lexington: president, Dr. J. W. Mann; secretary, Dr. J. Q. Cope, Lexington.

New Hospital.—The Methodist Deaconess Hospital Association, St. Joseph, which now conducts Ensworth Hospital, has decided to purchase residence property at Fifth and Farion Streets for $20,000 and to erect thereon a fireproof, four-story, hospital building. The new building is to be completed within two years.

Milk Commission Seeks Incorporation.—Drs. George C. Mosher, Andrew W. McAlester, J. E. Hunt, Frank C. Neff, A. G. Nuh and Edwin H. Schorer, all of Kansas City, the Medical Milk Commission of the Jackson County Medical Society, seek a decree of incorporation in a petition filed in the circuit court, March 1. The commission is formed to examine, test and certify milk from such dairies as may request this service, and no charge is to be made for this work.

Personal.—Dr. W. P. Bradley, Windsor, has been elected superintendent, and Drs. C. B. Simcoe, Jefferson City; J. W. Dawson, Eldorado, and W. B. Summers, Conway, have been appointed assistant physicians at State Hospital No. 3, Nevada.——Dr. Bondurant Hughes, Keytesville, has been appointed superintendent of the State Tuberculosis Sanatorium, Mount Vernon.——Dr. W. S. Fast, St. Joseph, has been appointed superintendent of the Nebraska Institute for the Feeble-Minded, Beatrice.——Dr. A. C. Pettijohn, superintendent of the St. Joseph City Hospital, was operated on for the removal of gall-stones in Rochester, Minn., February 21.——Dr. T. R. Thornton, Lee's Summit, fell on an icy walk near his home, February 20, fracturing his right arm near the wrist.

St. Louis

Special Quarters for Inebriates.—The board of police examiners has provided special quarters for inebriates and drug addicts in the city hall, and dispensary physicians will be constantly on duty.

New Dispensary Dedicated.—The Holy Cross House Dispensary, 2500 North Twelfth Street, was dedicated by Bishop Tuttle, March 2. Last year the dispensary department treated more than 1,000 patients. It is to be in charge of Dr. R. L. Hild.

Hospital Saturday and Sunday Receipts.—It was announced at the annual meeting of the Saturday and Sunday Association, February 18, that the largest collection in the history of the Association was that taken last fall, amounting to $47,837.03.

The New Children's Hospital.—Earth was broken, February 22, for the new Children's Hospital at King's Highway and the Wabash tracks. The building is to cost $170,000 and has been given by Mrs. John Fowler in memory of her mother, the late Mrs. Elizabeth J. Liggett.

Personal.—Dr. James M. Scott, Kansas City, a pioneer in *x*-ray work in the United States, was obliged to have his right arm amputated above the wrist recently as the result of early experiments with the Roentgen ray.——Dr. and Mrs. M. B. Clopton and Dr. and Mrs. H. G. Mudd sailed for the Caribbean Sea and the Canal Zone, March 4.

NEW JERSEY

Personal.—Dr. Federico Luongo has been appointed a member of the Board of Health of Orange.—Dr. G. N. J. Sommer, Trenton, has returned from a visit to the west coast of Florida.

New Cottages at Epileptic Village.—During this month three new cottages will be opened at the State Village for Epileptics, Skillman. Two of these will be for regular patients and will accommodate about thirty each. The third will be a cottage for feeble-minded men to be filled by transferring from the Vineland Training School, male patients, wards of the state, who were committed to the institution in their youth, and have since become adults.

New Surgical Society.—The Society of Surgeons of the State of New Jersey was organized at Trenton, January 15, and the following officers were elected: president, Dr. Robert M. Curts, Paterson; vice-presidents, Drs. Edward M. Zeh Hawkes, Newark, and Paul M. Mecray, Camden; secretary, Dr. G. N. J. Sommer, Trenton; treasurer, Dr. Henry Spence, Jersey City, and chairman of the committee of scientific work, Dr. Philander A. Harris, Paterson. The object of the society is to bring into one organization all surgeons of the state and to advance the interest of surgical science. The active membership at present is limited to visiting surgeons of recognized public hospitals and the associate membership to assistant surgeons and others who are making a specialty of surgery.

Medical Staff Elected.—At the annual meeting of the managers of Mercer Hospital, Trenton, the following medical staff was elected: medical director, Dr. George H. Parker; consulting surgeons, Drs. Thomas H. Mackenzie and Joseph M. Wells; consulting physicians, Drs. Samuel S. Stryker (Philadelphia) and William A. Clark; consulting neurologist, Dr. Henry A. Cotton; attending surgeons, Drs. Nelson B. Oliphant, George H. Parker and David B. Ackley; attending physicians, Drs. Paul L. Cort, George R. Moore, Walter A. Taylor and William A. Newell; gynecologists, Drs. Joseph B. Shaw and Edward S. Hawke; ophthalmologists, Drs. Charles F. Adams and Charles J. Craythorn; roentgenologist, Dr. Charles H. Holcomb, and pathologist, Dr. Frederick S. Hammond.

NEW YORK

Haverstraw Institution Presents Report.—The New York State Hospital for Crippled and Deformed Children, West Haverstraw, has submitted its twelfth annual report to the legislature. During the year forty-four new patients were received and 103 were treated; this is twenty-one more than during the preceding year. Of the number treated 40.48 per cent. were afflicted with tuberculosis of the joints or spine.

Think Ellis Island Passes Feeble-Minded.—The State Board of Charities, in making recommendations to the governor for enlarging the facilities for caring for defectives in this state, lays special emphasis on the fact that it is generally conceded that the facilities at Ellis Island for discovering the feeble-minded who seek to enter there, are entirely inadequate and that this matter must be given primary consideration. The communication points out that there are 30,000 defectives of which number the state makes provision for only 6,000.

New York City

Brooklyn Plans Night Camp on Ferry Boat.—The tuberculosis committee of the Brooklyn Bureau of Charities favors the establishment of a night camp for tuberculosis patients on a ferry boat which is now used as a day camp for tuberculosis and is moored in the East River.

Open-Air Wards at Mount Sinai.—The new open-air roof wards of Mount Sinai Hospital were opened for inspection March 7. They are the gift of Albert E. Goodhart and Charles A. Wimpfheimer and are intended not only for tuberculosis patients, but for all who require such outdoor conditions.

Personal.—Dr. Milton J. Strahl, Brooklyn, who has just completed his four years' course as resident physician in the Williamsburg Hospital, was given a dinner by the interns of the institution, February 28, at which he was presented with a set of surgical instruments.——Dr. Horace Greeley of the division of communicable diseases of the health department and borough chief of Brooklyn, since 1905, has been transferred to the division of contagious diseases as diagnostician and will make his headquarters at Staten Island.——Dr. B. F. Knause has been appointed borough chief of Brooklyn.——Dr. G. A. Merrill has been placed in charge of the Brooklyn Eastern District tuberculosis clinic, vice Dr. Knause, transferred.——Dr. John Addison Fordyce has been appointed professor of dermatology in the College of Physicians and Surgeons to succeed Dr. George T. Jackson, resigned.

Disappearing Diseases.—Dr. Guilfoy, the Registrar of Vital Statistics of New York has recently published some interesting figures from former records showing what modern methods have done in the way of abolishing certain diseases. Asiatic cholera was formerly a frequent visitor to the city, there being 5,000 deaths from this scourge in Manhattan and the Bronx in 1849, 2,500 in 1854, and 1,100 in 1866. During the last thirty-six years there have been only 11 deaths from this disease. Typhus fever was prevalent from the year 1868 onward, there being 200 deaths attributed to it in 1893. If the same death-rate from malarial fever had prevailed in 1912 as in the period from 1880 to 1890, there would have been 1,400 deaths from this cause; the number that actually did die from it was 20. The most striking conquest has been made in the case of small-pox which was practically always prevalent prior to the year 1876. Since that time the epidemics have become milder and of shorter duration until last year there were only two deaths from this disease in a population of over 5,000,000 people.

Hospital News.—In the new general post-office opposite the Pennsylvania Terminal an emergency hospital is to be established and also a disinfecting plant and a steam drying plant where the clothes of mail carriers who get caught in the rain may be cared for and the mail bags may be disinfected.——Announcement has been made that the old home of the New York Nursery and Child's Hospital, on the east side of Lexington Avenue between Fiftieth and Fifty-First Streets, will be sold at public auction on March 12. The hospital will concentrate all its work for the present in its New York Infant Asylum holdings at Amsterdam Avenue and Sixty-First Street.——At the annual meeting of the directors of the German Hospital the report of the officers showed that 48,228 patients had been treated in the institution during the year 1912. Of this number 6,935 were treated in the hospital department. In the dispensary department 106,849 consultations and treatments were given. The medical staff comprises about 140 physicians. The demands on the institution make new additions necessary but in spite of many liberal contributions, the fund is not sufficient to cover the cost of the contemplated buildings.

Fighting the Dispensary Abuse.—The County Medical Society is making a determined fight to have the law in regard to abuse of dispensary privileges enforced. The law which has been on the statute books for fourteen years and has never been enforced provides that any person who obtains medical or surgical treatment from any licensed dispensary on false representation shall be guilty of a misdemeanor and on conviction shall be fined not less than $2 or more than $250. Imprisonment may be inflicted until the fine is paid. The committee of fifteen appointed by the county society to investigate existing conditions has found that during the year 1911, 665,000 new patients were treated in the dispensaries of the city, and that in 1912 these figures were exceeded. As is was impossible to make an investigation of so many cases it was decided to investigate 1,000 cases chosen from thirteen representative dispensaries. An expert social worker was employed and her investigations showed that the great fault with these institutions was the lack of uniformity in keeping records. An interesting fact brought out by the investigation was that a considerable proportion of the applicants were not residents of New York at all. Of 157 persons applying in a limited period, fifty-seven were from out of town. The committee suggests a campaign of publicity in order that the public may understand that with very few exceptions physicians are giving their services freely in the dispensaries and the present laxity in the enforcement of the dispensary law is robbing both physicians, philanthropists, and the worthy poor, who because of the crowded condition of the dispensaries do not receive the careful treatment to which they are entitled. The committee further advised that the city be districted and that each institution refuse applicants living out of its district and it also recommended that the county society give its support to the associated outpatient clinics.

OHIO

State Society Meeting.—At a meeting of the council of the Ohio State Medical Association, held February 27, it was decided to hold the next meeting at Cedar Point, September 2-3-4.

The New State Hospital.—The new State Hospital for the Criminal Insane, Lima, will be completed in September of next year; it will have cost nearly $2,000,000 and will represent eight years of investigation and work.

Hospital News.—A new infirmary for Lucas County, to accommodate 150 patients and to be erected on a site adjoining the present county hospital at a cost of $100,000, is recommended by the medical staff of the institution.——A hospital is to be erected in Newark, to cost $60,000, to be three stories in height and of fireproof construction.

Personal.—Dr. Robert C. Longfellow has been chosen exalted ruler of the Toledo lodge of Elks.——Dr. A. J. Shoemaker has been appointed night physician at the State Penitentiary, Columbus, vice Dr. A. Delaplane.——Dr. H. J. Powell Van Buren, who has been seriously ill, following an operation four months ago, has recovered and resumed practice.

PENNSYLVANIA

Hospital Addition Almost Ready.—The new private ward addition to the York Hospital erected at a cost of $25,000, is so nearly ready that it will be opened April 1.

New Officers.—Reading Medical Association, February 28: president, Dr. Walter M. Bertolet; secretary, Dr. Claude W. Bankes.——South Scranton Physicians' Association, February 27: president, Dr. M. H. Quinn; secretary-treasurer, Dr. Grace McMahon.——The Medical Club of Harrisburg has applied for a charter. The president is Dr. Samuel Z. Shope and the secretary, Dr. J. Harvey Miller.—Womans Medical Society, Pittsburgh: president, Dr. Lula Robin Goldsmith, Pittsburgh; recording secretary, Dr. Viola Allison, Tarentum.

Personal.—The house of Dr. H. G. Diefenderfer, Beaverdale, was destroyed by fire, February 24, with a loss of $3,500, partially covered by insurance.——Dr Laurence A. Sheridan has been appointed a member of the Board of Health of Wilkes-Barre.——Dr. William F. Marks, for thirty-three years a member of the Reading Board of Health, has resigned.——Dr. C. D. Miller, Pottsville, who has been ill for four weeks, has gone to Hot Springs, Va., for treatment.——Dr. B. F. Shires, Patton, who underwent operation, February 24, in a hospital in Philadelphia, is reported to be doing well.

Philadelphia

Rush Society Lecture.—Dr. Theodore C. Janeway of Columbia University delivered the third lecture of the Rush Society, March 14. His subject was "Nephritic Hypertension."

Diphtheria Building Added to Municipal Hospital.—A new structure accommodating 120 patients and for the exclusive use of diphtheria patients, has just been completed at the Hospital for Contagious Diseases at a cost of $122,680.

Transfer Insane From Blockley.—The Philadelphia General Hospital transferred fifty-four patients to the Norristown Insane Asylum, March 5, that institution having been relieved of some of its patients by the opening of Rittersville Asylum.

Baby-Saving Show in New Quarters.—The baby-saving show opened at the Benson School at Twenty-Seventh and Wharton Streets on March 5, and will remain until March 15. The show, given under the auspices of the Child Hygiene Association, has arranged for lectures for each evening.

Ask Children's Aid in Mosquito War.—Director Cooke of the Department of Public Works, has issued a circular printed in large primer type and short words and containing illustrations for distribution among children. The circular describes the way that mosquitoes multiply and tells children how they may help in driving out the pests. Boy Scouts and other organizations are invited to act as agents of the department in promoting the campaign.

Personal.—Dr. William H. Wells has been appointed assistant professor of obstetrics in Jefferson Medical College.——Dr. George M. Coates has resigned as city medical inspector in the Bureau of Health.——Dr. S. Solis-Cohen, medical adviser to the Jewish Consumptive Institute, has resigned.——Dr. Thomas McCrae has been appointed a visiting physician to the Pennsylvania Hospital.——The home of Dr. Robert N. Downes, one of the oldest practitioners of Germantown, was damaged by fire to the extent of about $10,000, March 2.

Cleeman Dormitory.—Plans for the new Cleeman Dormitory at the University of Pennsylvania are now in the hands of the architects and work will commence on the buildings so soon as the Cleeman estate is settled. The dormitory will be erected in the large quadrangle and will project from the new memorial gate toward the west, forming the third side of a smaller quadrangle within the larger one. The building will cost about $50,000 and will be called Cleeman Hall, in honor of Dr. Cleeman's brother, Ludwig C. Cleeman, in whose memory it is erected.

Phipps Institute Near Completion.—The new building of the Phipps Institute for the Treatment of Tuberculosis is nearing completion and will be opened to patients in three weeks, although the formal opening and dedication will not take place for at least six weeks. The building is of brick with white marble trimmings and is five stories in height in addition to a light and well-ventilated basement. It has a frontage of 132 ft. and contains two wings, the structure standing clear of any other edifice. The basement contains museum, lecture room, library, boiler plant, domestic science classrooms for nurses, laundry and mechanical and emergency rooms. All the first floor is given over to the general offices, waiting room for visitors and patients, examination quarters, and other rooms needed in administration work. The second floor contains doctors and nurses' quarters, laboratories, technical and experimental sections. The third, fourth and fifth floors are devoted entirely to patients. On all these floors open-air porches are constructed facing Starr Garden Park.

Conference on Mental Hygiene.—A conference to discuss mental hygiene under the auspices of the National Committee for Mental Hygiene, will be held in Philadelphia, March 17-22, inclusive. On March 15 there is to be a discussion, antecedent to the opening of the conference, at a long table luncheon at the Hotel Walton, at which Dr. D. J. McCarthy is to preside and at which addresses will be delivered by Mr. Clifford W. Beers, secretary of the National Committee, on "Necessity for Organized Work in the Conservation of Mental Hygiene"; by Dr. Elizabeth C. Spencer, Norristown, on "What the State is Doing and Can Do to Conserve Mental Health"; by Dr. Joseph S. Neff on "The Maintenance Responsible for Mental Health and How to Meet This Responsibility"; by Mrs. Thomas S. Kirkbride on "Mental Health and a Progressive Social Conscience"; by Dr. Oliver P. Cornman, Philadelphia, on "Mental Hygiene as a Factor in Education," and by Dr. Woods Hutchinson, New York City, on "The Relation of Eugenics to Mental Health."

WASHINGTON

Sanatorium Changes Hands.—The Tacoma Private Sanatorium at North First Street and Tacoma Avenue was sold, March 1, by the American Casualty Company to Drs. S. L. Blair, G. M. Steele and E. A. Montague. The hospital is a three-story building with accommodation for thirty-five patients. Dr. Blair will remain as superintendent of the institution.

Health of Washington.—The ninth biennial report of the State Board of Health for 1911-12 shows that the state of Washington has an efficient board of health and that it keeps close observation of all conditions relating to health and sanitation. Statistical tablets are shown of the proceedings and the state conferences of health officers are set forth at length in the report.

Personal.—Dr. C. A. Betts, M. R. C., U. S. A., has resigned and will enter private practice at Seattle about April 1.—Dr. J. T. Coleman, mayor of Chehalis, has been appointed health officer of Lewis County.——Dr. A. B. Cook, Colville, has moved to Anacortes.——Dr. James B. Eagleson, Seattle, fractured his right wrist and sustained severe cuts and bruises by the overturning of his automobile, February 25.

GENERAL

American Medical Colleges Establish Branches in China.—The University of Pennsylvania has opened a medical college in Canton; Harvard Medical School has begun a similar work at Shanghai, while the new Yale University at Chang-Sha has established a medical department.——There are practically no medical missions in Japan, although two of the foreign hospitals are still maintained. Japan now has her own medical science along modern lines.

State and Federal Quarantines Combine.—State and national health officials have arranged that beginning March 1, both the Pennsylvania state and the federal quarantine inspections of shipping inbound for Philadelphia shall be made at Marcus Hook. Formerly ships bound up the Delaware were boarded at Reedy Island by the federal quarantine officials and two hours later the examining process was repeated by the state quarantine authorities at Marcus Hook.

Medicine and Surgery at the Exposition.—The Panama-Pacific International Exposition to be held in San Francisco in 1915, announces that the exhibits in the domain of liberal arts will be especially interesting and significant. The mechanical side of surgery will be represented by a full collection of instruments and appliances and there will be also demonstrations of the most intelligent, modern methods employed in the prevention and mitigation of disease.

Alton Surgeons' Meeting.—At the meeting for organization of the Chicago and Alton Railway Surgical Association in Springfield, February 27, a general discussion was held on the formation of a hospital association, having in view the building of a hospital for the benefit of employees of the line. The following officers were elected: president, Dr. M. W. Pifard, Kansas City, Mo.; vice-president, Dr. James A. Clyne, Joliet, Ill., and secretary-treasurer, Dr. M. B. Titterington, Jerseyville, Ill.

Life Insurance Examiners Meet.—The medical section of the American Life Convention met in Hot Springs, Ark., February 26-28. The annual address was given by Dr. H. A. Baker, Pittsburgh, and papers were presented on "The Medical Director as a Substantial Factor in the Establishment and Development of a Legal Reserve Life Insurance Com [illegible] y," by Mr. Isaac Miller Hamilton, Chicago; "T [illegible] n Greatly Aid i [illegible] the Conservation of Health [illegible] Battle, Gree [illegible] boro, N. C.; "Educating t [illegible]" by I [illegible] W. S. Kendrick, Atlanta. [illegible] Applicants," by Dr. J [illegible] Mex.: "Blood-Pressure." [illegible] Standardization of the [illegible] Lincoln, Neb.; "Some V by Dr. Albert Seaton, Indianapolis; "Prognostic Value of Slight and Transient Albuminuria," by Dr. Henry Wireman Cook, Minneapolis, and "An Insurance Problem," by Dr. Frank W. Foxworthy, Indianapolis. The next meeting will be held in St. Paul, Minn., August 19-21.

FOREIGN

Deaths in the Profession Abroad.—In addition to those mentioned elsewhere, the profession has lost recently Prof. G. Vassale, of the chair of general pathology at the university of Modena, Italy. He was one of the leaders in the therapeutic utilization of internal secretions.——M. Albanese, professor of pharmacology at Rome, noted for his works on the ketones, adrenals, xanthin bodies, etc., and for his calling attention to the viscosity of the blood as an important property of organic fluids.——P. Niehans, professor of surgery at the university of Berne, aged 64.——K. Thue of Christiania, author of works on pulmonary tuberculosis, endocarditis and leukemia, aged 54. ——F. J. A. C. Howitz, formerly professor of gynecology and obstetrics at the university of Copenhagen, and author of the ten-volume work "Gynækologiske og Obstetriske Meddelelser." His name is best known by his introduction of thyroid treatment for myxedema. He was 84 years old.——Sir Colvin Colvin-Smith, M.D., Aberdeen, L.R.C.S., Edinburgh, K.C.B.; honorary surgeon to Queen Victoria and King Edward and surgeon-general under King Edward V; a veteran of the Indian Mutiny, Burma War and Egyptian Campaign; died at his home in London, March 1, aged 83.——Rt. Hon. Balthazar Walter Foster, First Baron Ilkeston, P.C., 1906, M.D., Erlangen, Germany, 1864; L.R.C.S., Ireland, 1860; L.K.Q., Coll. Phys., Ireland, 1860; F.R.C.P., London, 1873; professor of medicine in Queen's College, Birmingham, from 1868 to 1892; president of the council of the British Medical Association from 1884 to 1887; a distinguished member of the Liberal party; parliamentary secretary to the Local Government Board from 1892 to 1895; died at his home in London, January 31, aged 73.

LONDON LETTER

(From Our Regular Correspondent)

London, Feb. 22, 1913.

Stringent Measures Against Bovine Tuberculosis

The Board of Agriculture has issued a stringent order which aims at destruction of every cow found to be suffering from tuberculosis of the udder or to be giving tuberculous milk, as well as of all bovine animals suffering from tuberculosis with emaciation, as these are known to disseminate freely the germs of the disease. In confining the order to these forms of tuberculosis the board has not lost sight of the fact that it may be possible to take further action in the light of experience gained; but it feels that heroic measures taken at present would only defeat their own object. As the expense in the first five years is likely to be heavy, the government during that period will refund to local authorities half the compensation paid. In the event of an animal which is slaughtered by order being shown on post-mortem examination not to have consumption, the owner is said to have the full value and an extra $5.

Leprosy in London

The Metropolitan Asylum's Board (which controls all the hospitals for infectious diseases in London) has had under consideration a letter from a local municipal body, the Greenwich borough council, asking that leprosy should be made a notifiable disease, and hospital accommodation provided for the treatment of cases. Acting on the advice of their medical officer, the board has declined the application. The medical officer states that although there are always a number of lepers in this country, there is only one instance on record (in Ireland) of a previously healthy person developing the disease in these islands. In that case the man had been in the habit of sleeping in the same bed with his brother, who was a leper, and when the latter died wore his clothes. There is no doubt, he adds, that leprosy is contagious, but in a low degree, and that prolonged and intimate contact is necessary to permit of the spread of infection. The idea that leprosy is dangerously infectious is firmly rooted in the public mind, and is maintained by the deaths from leprosy which occur from time to time in the ranks of those who tend the sufferers from this disease. No count is taken, however, of the much larger number who escape infection. One sisterhood has had charge of a leper colony for fifty years, and during that time no sister has contracted the disease. The medical officer thinks that lepers who can be maintained in their own homes with proper sanitary precautions may safely be left there, and that those living in unhygienic conditions can be treated in the London hospitals or infirmaries without any risk to the other inmates.

Nostrums in Australia

In Australia the traders in nostrums are much exercised at certain recent legislation directed against the evil. The council of the Melbourne chamber of commerce has endorsed the protest made by the Sydney chamber of commerce against the regulations of the Board of Health of Western Australia requiring the publication of the formulas of infants' and invalids' foods and proprietary medicines. Replying to the protest, the minister, Mr. W. C. Angwin, has issued a statement that the regulations have been made under the provisions of the health act, which provide for the formulas appearing on the label or being deposited with the commissioner of public health. The health act contains certain drastic powers in connection with "patent medicines," and it is in order to have them effectively carried out that these regulations are now adopted. The sale of "patent medicines," for instance, containing deleterious drugs, may be prohibited, and the depositing of the formulas with the department will materially assist in the detection of any such deleterious substance. The regulation provides an alternative. The formulas may be deposited with the department instead of appearing on the bottle. All formulas deposited will be maintained in strict confidence. In regard to infants' and invalids' foods, the department is quite willing to permit the depositing of the formulas confidentially in the same manner as with "patent medicines." In the case of both "patent medicines" and infants' foods, the public should be able to know exactly what is being bought; when makers are unwilling to take the people into their confidence, then the public health department should know exactly what is there. Undoubtedly a great deal of fraud is perpetrated in this matter, and it is to prevent that, and also prevent injury to health from abuse of such medicines and food that these regulations are now put forward.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 7, 1913.

Distribution of Physicians in Paris

In the *Bulletin Médical*, Dr. Desescuelle has published an article in which the distribution of Paris physicians by *quartiers* is given. Paris is divided into twenty *arrondissements*, each of which comprises four *quartiers*. Of these eighty *quartiers* there are forty in which there are less than a thousand inhabitants to each physician; twenty-one in which this number is between 1,000 and 1,880; nine between 2,225 and 2,738; nine between 3,134 and 6,370, and one in which there is one physician to 17,722 inhabitants. In one of the forty *quartiers* in the first category there is one physician for each ninety-four inhabitants, and in seven *quartiers* there is one physician for each 200 inhabitants.

Medical Examination of Men on the Army List

The minister of war has ordered physicians in examining men on the army list to pass no more than thirty an hour. It is hoped by this rule, permitting an average of two minutes to each man, to avoid the rejection of men who would be fit for acceptance after proper medical attention, and the provisional acceptance of men who fall short physically and are rejected at the final examination when about to be enrolled in the army. The number finally rejected amounts to several thousand each year. An innovation will be an examination of the normal functioning of the heart and respiratory organs.

The Clean Delivery of Bread

French bakers usually deliver loaves of bread in hampers or baskets which are often set down on the sidewalk or in the entrances to houses. On the ground that this is not a clean practice, the mayor of Lyons has issued a decree that all bread not delivered in closed wagons shall be completely wrapped, and the basket covered with a cloth.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 21, 1913.

Personal

According to newspaper reports which have appeared for the sixth time, von Noorden contemplates leaving Vienna next July and going to Frankfort-on-the-Main.

Newspaper Puffs for Friedmann's Method of Treating Tuberculosis

The following has been published in the *Deutsche medizinische Wochenschrift:* "The stamp 'Made in Germany,' as it relates to medicine, seems to have a great effect in America. To illustrate: While our medical and the better class of lay papers have ceased to discuss the matter, the columns of several American newspapers, according to clippings which have been sent to us, are filled with enthusiastic reports about this alleged new discovery, and all express the belief that at last a remedy has been found which will eliminate tuberculosis. According to the opinion of our regular New York correspondent. most of these puffs are written by the Berlin correspondents of the American newspapers." It is stated further that from New York reports are sent to the German newspapers. Thus the *Berliner Tageblatt* published recently the following cablegram: "Mr. Finlay, president of the Aetna National Bank, of New York, is said to have offered to a Berlin physician one million dollars if he succeeds in curing his son-in-law who suffers from tuberculosis. The proviso is made that the Berlin physician come personally to New York, and treat. besides the son-in-law of Mr. Finlay, ninety-nine other patients, of whom 95 per cent. must be cured. Grimm's fairy tales sometimes end with the words: 'Who believes this must pay a dollar.' Translated into American, this sentence would read: 'Who believes this must pay a million.'"

A few days ago one of the Berlin reporters sent the following notice to the press: "The discoverer of the new remedy for tuberculosis, Dr. Franz Friedmann, will arrive in the next few days in America. It is reported from there that the multimillionaire banker, Charles Finlay, offered the Berlin investigator the sum of one million dollars as soon as the latter arrives in New York and cures his son-in-law, Mr. Paris, of tuberculosis." In order to add humor to this sensation, another report comes from America that an American physician has likewise produced from turtle bacilli a remedy for tuberculosis with which he hopes to earn the million-dollar prize. If the steamer does not go too fast, the son-in-law of Mr. Finlay will probably be cured with this remedy by the time Dr. Friedmann arrives in New York.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Feb. 17, 1913.

Medical Students Protest Against the New Curriculum

The medical students of the first two years recently called a meeting to protest against several regulations of the new curriculum imposed on them. The new order requires the student to pass four different preliminary examinations in biology (botany, zoology and chemistry) along with practical examinations in anatomy and physiology, within a period of twelve weeks, while the old curriculum permitted him to spread these examinations over the end of the fourth and the whole of the fifth semester (or half-yearly term). The new regulations entail practically the loss of a semester (or half-year), and also the loss of scholarships which are connected with the line the student takes for his studies. A memorandum was addressed to the dean of the faculty and the Ministry of Education asking for abolishment of the onerous rules. In case these prove useless, energetic measures have been threatened.

Washington's Birthday

As is usual in this city, all Americans in Vienna are invited to the United States embassy, February 22, to celebrate Washington's birthday. As over 80 per cent. of the Americans in Vienna happen to be doctors of medicine pursuing their studies in the clinics and other medical institutes of this city, one may say that this evening is really an evening of physicians. Their patriotism is well illustrated by their attendance.

The Imperial Institute for the Care of Mothers and Infants

Acting on a suggestion of the emperor, part of the large sums collected on the occasion of celebrating the sixtieth anniversary of his succession to the throne, was devoted to the establishment of a permanent institute for the protection of infants and their mothers. The preliminary organization has been completed, and a report by the committee shows what has been achieved. Escherich was the initiator of the idea which Dr. Moll, his pupil, has carried out. The institute is intended to serve as a charitable and a teaching institution as well. Theoretical and practical instruction will be given to mothers and other women in the care and development of infants and children. Furthermore, midwives will be trained to become competent nurses for infants, an object of the utmost importance; also regular nurses will be instructed there. It will also serve as postgraduate school for doctors of medicine, for it is one of the chief endeavors of the institute to induce practitioners to cooperate with it in the care of infants. For this purpose it is intended to train the practitioners, especially in the provinces, that they may establish branch institutes in their districts, with the aid of the central institute. Naturally, the organization of the branches will be a useful addition to the teaching facilities in preventive and social medicine. In order to interest the poor, a special department for the instruction of mothers will be formed. There they will learn how to handle the healthy and the diseased baby, how to treat the milk and other food, and how to take care of their offspring generally. Besides, the charitable department will receive infants deprived of their mothers as well as destitute mothers with their babies. Older children will also be received to a limited number in order to teach the nurses how to manage the diseased child as a skilled help for the physician. There will be a department for the education of children with minor or major defects of education or mental condition. This will enable the nurse to learn an important part of her duties, and will reach children at present badly looked after if their parents happen to be poor. There is hardly any provision for such children in this country, only the barest attempts having been made about two years ago. The whole institute will be part of a general bureau for the protection and care of infants, to be extended over the whole Austrian empire, and to be an office of the ministry of the interior. The plans for the building have been completed and comprise space for eighty infants, twenty older children, thirty pupils, twenty wet-nurses and twenty mothers. The institute will be in working order in two years. Meanwhile its work is being led up to by the spreading of instruction as to its existence and its endeavors among the poorer classes of the population, as well as by the publication of instructive leaflets like the one called "A Vademecum for Mothers."

Marriages

Harry Burton Stevenson, M.D., Sherwood, Md., to Miss Katherine Torpey of Philadelphia, at Buffalo, N. Y., February 25.

Howard Lane Hull, M.D., M. C., U. S. Army, to Miss Sarah Kelsey Buck of Bridgeton, N. J., at Philadelphia, February 17.

Philip Patrick Crimmins, M.D., Brockton, Mass., to Miss Kerby Louise Langdon of Boston, at Brockton, February 26.

Edward A. Stierberger, M.D., of Union, Mo., to Miss Mamie A. Vitt of Franklin County, Mo., at Union, February 27.

Guido J. Gianfranceschi, M.D., Rochester, N. Y., to Miss Marietta Strozzi of Buffalo, N. Y., Dec. 19, 1912.

Arno Klein, M.D., Mount Vernon, Ind., to Miss Emily Virginia Brower of Williamsport, Pa., February 26.

William Julius Mason, M.D., Portsmouth, Va., to Miss Flora Mae Watson of Baltimore, February 26.

Mark Frederick Boyd, M.D., Oskaloosa, Ia., to Miss Bertha Mary Beard of Iowa City, Ia., January 8.

Joseph C. Taylor, M.D., New York City, to Miss Marion R. Hungerford, in New York City, recently.

Alfred Darwin Kirby, M.D., Champaign, Ill., to Mrs. Julia Beatrice Wilson, in Chicago, March 1.

Henry Martin Pahlas, M.D., Elkader, Ia., to Miss Bertha Pings of Denver, Colo., February 28.

Edward Waters Gray, M.D., Ensley, Ala., to Miss Pearl Belser of Sheffield, Ala., February 20.

Will Amick Quimby, M.D., to Miss Helen Dunlevy Sprott, both of Bridgeport, O., January 21.

Edmund LeRoy Dow, M.D., to Mrs. Julia Ely Smylie, both of New York City, February 20.

Thomas B. Allison, M.D., to Miss Marie Sober, both of Tarentum, Pa., February 6.

Thomas J. Coble, M.D., to Miss Mabel Holt, both of Shelbyville, Tenn., February 15.

John Peters, M.D., Maywood, [illegible] iss [illegible] ller of Chicago, February 18.

Deaths

John Shaw Billings, M.D. lieutenant-colonel U. S. Army, retired. Curator of the Army Medical Museum and Library for many years, the Index Catalogue of which will stand as a lasting monument to his industry and genius; died in the New York Hospital, March 11, from pneumonia, aged 73.

He was born in Switzerland County, Ind., and was graduated from the Medical College of Ohio, Cincinnati, in 1860. He also has had conferred on him the honorary degree of LL.D. by many universities, at home and abroad; that of M.D. by the University of Munich in 1889 and by Dublin University in 1892 and the degree of D.C.L. by the University of Oxford in 1889.

After serving for a year as demonstrator in anatomy in his alma mater, he entered the United States Army as assistant surgeon, April 16, 1862; was made captain and assistant surgeon four years later; after ten years was promoted to major and surgeon, and June 6, 1894, was made lieutenant-colonel and deputy surgeon-general and was retired from the Army at his own request, after more than thirty years service, Oct. 1, 1895. In 1869 he was ordered to the Surgeon-General's office, Washington, where he had charge of the organization of the Veteran Reserve Corps; of matters pertaining to contract surgeons and of all property and disbursing accounts until 1885, when he was placed in charge of the Library of the Surgeon-General's office, serving in this capacity until 1893, when he was appointed curator of the Army Medical Museum and Library. He was placed in charge of the division of vital and social statistics of the tenth and eleventh censuses. In 1870 Dr. Billings was engaged in the reorganization of the United States Marine Hospital Service and from 1879 to 1882 served as vice-president of the National Board of Health.

His contributions to the medical literature were numerous and varied, the best known being the Index Catalogue of the Library of the Surgeon-General's Office and the National Medical Dictionary. He was professor of hygiene in the University of Pennsylvania and director of its laboratory of hygiene from 1893 to 1896, when he accepted the directorship of the New York Public Library, Astor, Lenox and Tilden Foundations, holding this position until his death.

Dr. Billings survived his co-worker, Dr. Robert Fletcher, by only four months. His work as an administrative officer and as a bibliographer is unique in the history of American medicine.

Philip Hanson Hiss, Jr., M.D. College of Physicians and Surgeons, New York City, 1895; a member of the American Medical Association; National Pathological and Bacteriological Society; Society of Experimental Biology in Medicine; American Public Health Association, etc.; assistant in bacteriology in his alma mater in 1895; instructor in hygiene and bacteriology from 1899 to 1903; adjunct professor of bacteriology from 1903 to 1906 and thereafter professor of bacteriology; professor of hygiene in the Woman's Medical College from 1898 to 1899; bacteriologist of the Health Department of New York City from 1896 to 1899; co-author with Zinsser of a text-book on bacteriology; died at his home in New York, February 27, aged 44.

Thomas H. Doyle, M.D. New York University, New York City, 1865; a member of the American Medical Association; a pioneer physician and formerly police commissioner and mayor of St. Joseph, Mo.; professor emeritus of the principles and the practice of medicine in the Ensworth Medical College, St. Joseph, and president of its board of trustees; died in St. Joseph's Hospital, February 25, shortly after a surgical operation, aged 72. In 1910 Dr. Doyle was the guest of honor at a testimonial banquet given by the medical, dental and pharmaceutical professions of the city, at which a silver loving cup was presented to him.

Evan G. Shortlidge, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Delaware State Medical Society; for forty years a member of the Board of Education of Wilmington and for eighteen years its president; mayor of Wilmington from 1893 to 1895; died at his home, February 24, aged 68. Out of respect for Dr. Shortlidge the public schools of the city were closed all day on the day of his funeral and flags on all school buildings were at half-staff for the week following his death.

John Anthony Hobson, M.D. Miami Medical College, Cincinnati, 1872; a member of the American Medical Association; of Flushing, Ohio, proprietor of the Flushing Hospital; died suddenly, February 21, from heart disease, while making a professional call in St. Clairsville, Ohio, aged 63.

John Warren Willis, M.D. Harvard Medical School, 1861; a member of the Massachusetts Medical Society; for twenty years treasurer of the Massachusetts South District Medical Society; for more than half a century a practitioner of Waltham and for several years chairman of the board of selectmen; a member of the town school committee and board of aldermen, and city physician; one of the founders of the Waltham Hospital and Nurses' Training School and trustee of the latter institution; died at his home in Waltham, March 1, from pneumonia, aged 80.

Henry F. Livingston, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; a member of the South Dakota State Medical Association; one of the oldest practitioners of South Dakota; for twelve years physician and agent to the Sioux Indians at the Crow Creek Agency; afterward a resident of Yankton; for two years assistant superintendent and for a similar period, superintendent of the State Hospital for the Insane and for a number of terms coroner of Yankton County; died at his home in Yankton, February 27, from heart disease, aged 69.

Henry William Brown, M.D. Geneva (N. Y.) Medical College, 1867; a member of the American Medical Association; one of the founders and a member of the staff of the Presbyterian Hospital, Waterloo, Ia., and a pioneer practitioner of that city; a surgeon of volunteers during the Civil War, and for many years local surgeon of the Illinois Central Railroad; died at his home, February 27, from organic heart disease, aged 68.

Azro Delos Bundy, M.D. Eclectic Medical Institute, Cincinnati, 1878; College of Physicians and Surgeons, Keokuk, Ia., 1880; a member of the American Medical Association; a veteran of the Civil War and during the latter part of his service, assistant surgeon of volunteers; for several years a member and chairman of the library board of Osage, Ia.; died at his home, February 21, from cerebral hemorrhage, aged 71.

Thomas Janes Carswell, M.D. University of the South, Sewanne, Tenn., 1908; of Waycross, Ga.; a member of the American Medical Association and secretary of the Eleventh District Medical Association; died in the King's Daughters Hospital, Waycross, February 9, from the effects of burns and injuries received in an automobile accident a few hours before, aged 35.

John Wesley Leonard, M.D. Medical College of Ohio, Cincinnati, 1886; for many years medical examiner for the Burlington System Voluntary Relief Department; for one year resident physician at the Dixmont Insane Hospital, Pittsburgh, Pa.; a practitioner of St. Joseph, Mo., since 1888; died in the French Sanatorium in that city, February 24, aged about 55.

Frederick Charles H. Eggert, M.D. Northwestern University, Chicago, 1898; instructor in operative surgery in his alma mater; a member of the American Medical Association; and chief surgeon of the German Deaconess Hospital; died at his home in Chicago, March 6, from pneumonia, aged 37.

Jesse T. Dunn, M.D. University of Louisville, Ky., 1890; a member of the American Medical Association and one of the early *x*-ray workers of Louisville; died in the Jewish Hospital, Louisville, February 28, from pneumonia, aged 45. At a special meeting of the Jefferson County Medical Society resolutions of regret and sympathy were adopted.

Isaac Allen Fetherlof, M.D. College of Physicians and Surgeons, Baltimore, 1877; a member of the Medical Society of the State of Pennsylvania; for twenty-five years a practitioner of Mazeppa, Pa., but for the last two years a resident of West Milton; died at his home, February 16, from malignant disease of the liver, aged 62.

Augustus Van Hoff, Gosweiler, M.D. Jefferson Medical College, 1877; for thirty years a practitioner of Baltimore County, Md., and for ten years resident physician at the Eastern Dispensary, Baltimore; a druggist of New York City since 1905; died in Bellevue Hospital, February 22, shortly after a surgical operation, aged 63.

William Arthur Little, M.D. New York University, New York City, 1878; one of the founders of the Bushwick Hospital, Brooklyn; died at his home in that city, February 24, from heart disease, aged 63.

James W. Eichelberger, M.D. University of Maryland, Baltimore, 1870; a life-long resident of Emmitsburg, Md.; died in the Frederick (Md.) City Hospital, February 23, from nephritis, aged 71.

James Everard Massey, M.D. University of Maryland, Baltimore, 1871; died at his home in Rock Hill, S. C., January 20, aged 64.

DEATHS

Ferdinand Koeller, M.D. University of Gratz, Austria, 1854; later assistant professor in the eye clinic of his alma mater; formerly a member of the American Medical Association; a surgeon in the war between Austria and Italy in 1859; died at his home in Mount Oliver, Pittsburgh, March 2, from senile debility, aged 79.

Robert W. Musgrave, M.D. California Eclectic Medical College, Los Angeles, 1884; a member of the American Medical Association; a pioneer physician of Kings County, Cal.; formerly county health officer and city physician of Hanford, Cal.; died suddenly at his home, February 15, from heart disease, aged 54.

John Morse Wakefield, M.D. Dartmouth Medical School, Hanover, N. H., 1875; a member of the American Medical Association; once president of the Knox County (Me.) Medical Society; president of the consulting staff of the Knox County Hospital; died suddenly at his home in Warren, February 27, aged 60.

George Fischer, M.D. University of Würzburg, Germany, 1889; a member of the American Medical Association; dermatologist to the Paterson (N. J.) Hospital and a member of the medical staff of the New York German Hospital; died at his home in Paterson, February 22, from pneumonia, aged 48.

John Edgar Ambler, M.D. New York Homeopathic Medical College, New York City, 1893; assistant surgeon to the New York Ophthalmologic Hospital, and formerly on the staff of the Metropolitan Hospital, Blackwell's Island; died at his home in New York City, February 24, from scarlet fever, aged 41.

John Alexius Joseph Mueller, M.D. State University of Iowa, Iowa City, 1892; president of the Dyersville (Ia.) Commercial Club; formerly mayor of New Vienna, Ia.; while driving across the Illinois Central tracks near Dyersville, March 1, was struck by a train and died a few minutes later, aged 41.

John Lee Lehman, M.D. Indiana Eclectic Medical College, Indianapolis, 1887; a member of the Illinois State Medical Society; formerly a member of the board of health of Carmi; died at his home, January 17, from carcinoma of the stomach, aged 60.

Frank C. Molkup, M.D. Chicago Homeopathic Medical College, 1898; Hahnemann Medical College, Chicago, 1905; a member of the Bohemian Medical Society of Chicago; died suddenly from heart disease at his home in Chicago, March 1, aged 42.

John Thomas Faucett, M.D. Vanderbilt University, Nashville, Tenn., 1881; a member of the Tennessee State Medical Association; and president of the Gibson County Board of Health; died at his home in Trenton, February 2, aged 59.

Francis M. McElwee, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1892; a member of the Nebraska State Medical Association; for twenty years physician of Franklin County, Neb.; died at his home in Macon, March 1.

Edward F. Wagner, M.D. Jefferson Medical College, 1884; medical inspector for the Pennsylvania System Relief Union; who was on duty during the Johnstown flood of 1889; died at his home in Fort Wayne, Ind., February 23, aged 52.

Charles B. Holmes, M.D. New York Homeopathic Medical College, 1874; four times mayor of Rahway, and a member of the Rahway Board of Trade; a member of the Medical Society of New Jersey; died at his home March 4, aged 65.

Lyman R. Woodson, M.D. Ensworth Medical College, St. Joseph, Mo., 1898; a newly appointed member of the staff of State Hospital No. 2, St. Joseph; died at his home in Rushville, Mo., February 25, from pneumonia, aged 35.

Edith Barton, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1902; a member of the American Medical Association; of Scranton, Pa.; died at her home, February 20, from heart disease, aged 44.

Saul Brock Angle, M.D. University College of Medicine, Richmond, Va., 1901; of Windsor, Va.; a member of the Medical Society of Virginia; died in St. Andrew's Hospital, Suffolk, Va., February 23, aged 32.

Peyton L. Hurt, M.D. Jefferson Medical College, 1867; formerly president of the Cooper County (Mo.) Medical Society; of Boonville; died in that place, February 24, from heart disease, aged 67.

Russell Clark Bowdish, a charter member of the Marion County (Ohio) Medical Society; died at his home in Marion, February 20, from senile debility, aged 89.

E. W. Bradley, M.D. University of Louisville, Ky., 1874; of Newburg, Tex.; died at Mineral Wells, Tex., February 14, aged 63.

Henry J. Trolinger, M.D. Washington University, St. Louis, 1875; for twenty-five years a practitioner of San Antonio, Tex.; died at his home in that city, February 27, from cerebral hemorrhage, aged 62.

Edgar Pearl Ward, M.D. Marion-Sims Medical College, 1894; professor of embryology and obstetrics in the American Medical College, St. Louis; died at his home in that city, February 22, aged 46.

Perry Wright Falls, M.D. Eclectic Medical Institute, Cincinnati, 1892; formerly surgeon to the Signal Corps, N. G., La.; died at his home in New Orleans, February 24, from influenza, aged 53.

John Baxter Richards (license, Wisconsin, 1881); a practitioner since 1854; health officer of Janesville in 1910; died at his home in that city, January 3, from cerebral hemorrhage, aged 80.

William Augustus Megrath, M.D. Dartmouth Medical School, Hanover, N. H., 1886; a member of the New Hampshire Medical Society; died at his home in Loudon, February 13, aged 54.

Norman Brigham Bayley, M.D. Yale University, New Haven, Conn., 1871; a member of the American Medical Association; died at his home in Haverstraw, N. Y., February 27, aged 65.

Hugh Cross, M.D. University of Southern California, Los Angeles, 1894; a member of the American Medical Association; died at his home in Dunsmuir, Cal., February 23.

Archibald McNiel Bevier, M.D. University of Buffalo, N. Y., 1866; for forty-five years a practitioner of Owasco, N. Y.; died at his home, February 19, from arteriosclerosis, aged 71.

Harold B. Blanchard, M.D. McGill University, Montreal, 1907; a member of the American Medical Association; died at his home in Columbus, N. Dak., February 19, aged 29.

Thomas F. Montgomery, M.D. Rush Medical College, 1863; for nearly half a century a practitioner of Gibson County, Ind.; died at his home in Owensville, February 21, aged 73.

Charles M. Barkley, M.D. University of Louisville, Ky., 1883; a member of the Kentucky State Medical Association; died at his home in Leesburg, February 25, from pneumonia.

George Mark Silverberg, M.D. New York University, New York City, 1893; formerly of Chicago; died at his home in Los Angeles, February 22, from heart disease, aged 52.

Hiram Dana Walker, M.D. University of Buffalo, N. Y., 1864; a member of the American Medical Association; died at his home in Buffalo, February 21, aged 73.

James Crozier, M.D. Rush Medical College, 1882; of Glenwood, Minn.; a veteran of the Fenian Raid in Canada in 1866; died in Glenwood, about February 27.

Daniel L. Campbell, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1899; of Tacoma, Wash.; died at his home, January 20, from nephritis, aged 37.

Alexander Mansfield Goodman, M.D. New York University, New York City, 1876; died at his home in Brooklyn, N. Y., February 19, from uremia, aged 59.

George W. V. Hickman, M.D. Georgetown University, Washington, D. C., 1872; of Smithville, Tex.; died in Washington, D. C., about February 8, aged 59.

David Shewman Watson, M.D. Pulte Medical College, Cincinnati, 1905; died at his home in Fredericktown, O., February 13, from pneumonia, aged 36.

Rogers Wright Miller, M.D. Bellevue Hospital Medical College, 1870; died at his home in Castile, N. Y., February 22, from heart disease, aged 68.

Amalia Hesse, M.D. American Medical College, Eclectic, St. Louis, 1892; died at her home in St. Louis, February 26, from heart disease, aged 68.

John G. Calder, M.D. Manitoba Medical College, Winnipeg, 1889; of Medicine Hat, Man.; died in December, 1912, while en route to California.

Robert Hamilton Miller, M.D. Jefferson Medical College, 1896; died suddenly at his home in Santa Fe, N. Mex., February 19, aged 38.

Alpheus B. Woodruff, M.D. University of Pennsylvania, Philadelphia, 1874; died at his home in Elmer, N. J., January 18, aged 62.

Delmo Merton Bigelow, M.D. Detroit (Mich.) Homeopathic Medical College, 1904; died at his home in Detroit, February 24, aged 38.

Thomas Henry McNally, M.D. University of Vermont, Burlington, 1886; died at his home [illegible] Cen[illegible] Falls, R. I., J[illegible]uary 24.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

ANOTHER GET-RICH-QUICK SCHEME

In the absence of much-needed "blue-sky" laws in most of the states, the industrious and conscienceless promoter of wonderful get-rich-quick schemes still flourishes. Physicians are sometimes easy victims of such promoters, probably on account of carelessness, good nature or lack of time to investigate. A physician sends us a prospectus of a proposed combination sanatorium and nostrum factory which arouses speculation as to the sort of physicians who would attach their names to it; the scheme is so preposterous in outline that a mere reading should make warning unnecessary.

The Sanitarium Company of Sioux City, Iowa, the directors of which are Dr. S. W. Staads, president, Dr. S. B. Hoskins, vice-president, and Dr. F. A. Seemann, secretary, makes half a dozen secret homeopathic nostrums. It now proposes to combine with a sanatorium in a neighboring city and run the combination as a money-making venture on which they promise at the outset 22.5 per cent. returns, with unlimited possibilities for future profits. The circular is addressed to "Dear Reverend," but *it has been largely circulated among physicians.*

AN INCLUSIVE SCHEME

It is explained that "the object of our company is to manufacture and sell medicines for humankind and animals, chemicals, pharmaceuticals, infant and invalid foods, health coffees, to build and maintain a sanatorium, etc.," which seems rather inclusive. A building for the sanatorium is to be purchased for about thirty thousand dollars. The sanatorium portion of the scheme is to be capitalized at five hundred thousand dollars, with thirty thousand shares of preferred and twenty thousand shares of common stock. Eight per cent. "cumulative dividends" are to be paid on the preferred stock, and it is asserted that the dividends on the common stock may easily amount to "20, 50 or more per cent." By way of encouraging prospective investors in the stock the promoters cite a number of well-known industrial or public utility stocks that are said to have increased from a value of $100 per share to $4,000, $48,000, $36,000, $50,000, $127,000 and $400,000, and call attention to the money-making qualities of a much-advertised talcum powder, Coca Cola, Post's Battle Creek breakfast foods, etc.

EXPLOITING THE "MADE IN GERMANY" BRAND

As a further inducement it is said that *a contract has been entered into with a famous German factory* with the "right to use their name and trademarks and to manufacture all of their products such as medicines, chemicals, foods, etc., which have a tremendous sale in Europe." It is also asserted that "when thoroughly established in the United States through wide advertising *to the physicians, druggists and the laity,* we will gradually have to open branches in Canada, Mexico, Cuba, etc.," to which the promoters claim their concession extends, and then they go on to say: "Have you any conception of the wonderful possibilities of such work? Just think what it means to have thousands of physicians and druggists as shareholders, as we *intend to get!* All shareholders are entitled to 10 per cent. discount for cash on any direct purchase of our goods not marked net, and on bills incurred at the proposed sanatorium. . . . Further, every shareholder, minister and layman (and we have a good number of them now and add as fast as we can) will gladly recommend such of our medicines to *his friends which he has found* to be reliable, for which purpose we intend to supply free each one with our preparations according to the holding they have with us. Think what it means to have thousands of friends in all parts of the country! That does not mean that our shareholders must be 'boosters' for us, but they will gladly say a good word for us where opportunity presents itself." The profits of the proposed sanatorium are then figured out on the basis of one patient at least from each of five hundred physician shareholders at so much per week, and the plan of letting the investor in on the ground floor for one hundred shares only (for each member of the family) of the preferred stock at ten dollars a share, with 2.5 per cent. discount and one share of common stock as a bonus, is set forth in glowing terms.

GETTING A STRING OF SUCKERS

The *three worthy homeopathic physician promoters of the* scheme give their official status and unimpeachable references to banks and trust companies, and wind up by suggesting that if the recipient cannot take up the proposition perhaps he can hand it to some member of his congregation who might be interested, or perhaps he could furnish a list of his parishioners, for which they will send him fifty cents' worth of their medicines for each twenty-five names. This would seem to be a rather lame conclusion to a glowing prospectus which deals in hundreds of thousands of dollars in stocks with tremendous dividends from a vast business extending over a continent. It is to wonder how many physicians or "Dear Reverends" would really invest good money in such a crudely and baldly exploited scheme.

THE PREPARATIONS OF LLOYD BROTHERS

The following inquiry comes from Dr. A. C. Ames, Mountain Grove, Mo.:

> "I receive considerable literature from Lloyd Brothers, Cincinnati, but I do not find any of their preparations in New and Nonofficial Remedies. Are their preparations not recognized? If not, why? Is it because of the way they are advertised or because they do not come up to the claims made for them? I do not want to pass a good thing by or waste my time trying what more competent men have cast aside as useless."

None of the products of the firm has been accepted for inclusion with New and Nonofficial Remedies nor has any been considered by the Council. On the one hand, Lloyd Brothers have not submitted their preparations; on the other hand, the Council has not considered them of sufficient importance to take them up on its own initiative. While some of this firm's products appear to be proprietaries of secret composition, in the main they are the so-called "specific tinctures" or "specific medicines." In general, it is understood that these preparations belong to that class of obsolete pharmaceuticals known as "green tinctures," which at one time were believed to possess great virtues because they were made from the fresh, undried drug. The manufacturers' statements as to the character of their "specific" medicines, however, are most indefinite and vague. Thus an advertising booklet contains the following in reference to the "drug strength" of specific medicines:

> "The drug strength is on every Specific Medicine label. This drug strength refers to the balanced structural parts of the drug that experience has demonstrated are best adapted to produce the fullest and kindliest drug action. In some cases the *green drug is employed, in others the dry drug, and again a* drug that is partly dried. In a few cases a drug is better if aged than when recent."

The use of so-called "green tinctures" has been a fad and has never been put on a scientific basis. In connection with the firm's claims for the superiority of its products, the following from a review of a paper by Edmunds and Hale[1] on digitalis and its standardization is illuminating:

> "Lloyd's 'Specific Medicine, Digitalis,' gave very interesting results, especially when compared with the claims made by this firm. It was assayed by seven methods—in one table it appears at the bottom of the list; *in four it stands last but one, and in* the other two it is third from the bottom. Its comparative

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[1] Edmunds, C. W., and Hale, Worth: The Physiologic Standardization of Digitalis, Hyg. Lab. Bull. 48; abstr., Pharmacology Department, The Journal A. M. A., June 12, 1909, p. 1938.

weakness is thus very clearly shown when it is compared with U. S. P. fluidextracts, and yet, according to Lloyd Brothers' advertising literature, 'Specific Medicines' have about double the effect on the system that is possessed by ordinary (nonproprietary?) fluidextracts. The dose recommended is from $\frac{1}{5}$ to 1 minim every hour, which the writers point out is certainly not less than that of a pharmacopeial fluidextract."

IOSALINE

Report of the Council on Pharmacy and Chemistry

Iosaline is a rheumatism remedy for external application. In view of the misleading and unwarranted claims which are made for it, the Council voted that Iosaline be refused recognition and recommended publication of the Committee's report which appears below. W. A. PUCKNER, Secretary.

COMMITTEE'S REPORT

The following sweeping but rather indefinite claims are made for Iosaline.

> "Iosaline is a penetrator and overcomes the objectionable escharotic properties of Iodine; it is readily absorbed and may be used without discomfort or discoloration."
>
> "The strong analgesic properties of Iosaline make it especially useful in controlling pain in cases of Neuralgia, Rheumatism, Gout, and Arthritis Deformans."

As there are few, if any, known iodin compounds which are "readily absorbed" through the skin and which will not at the same time produce discoloration or discomfort, it was thought worth while to take up the examination of Iosaline. The results of this examination are reported by the Chemical Laboratory of the Association as follows:

Laboratory Report:—Iosaline is advertised by the Iosaline Company of New York, as a remedy for the treatment by external application, of rheumatism, gout, neuralgia, pneumonia and numerous other diseases. Concerning its composition the following statements are made:

> "A transparent, non-staining gelatinoid of combined iodine with menthol and methyl salicylate.
>
> "Alcohol 070. per cent.
>
> "Chemical tests demonstrate the preparation to contain 5 per cent. of iodine."

The placing of a cipher before the percentage figure for alcohol, though perhaps accidental and not meant to mislead, might cause a hasty or careless reader to understand 7 per cent. or .07 per cent., instead of 70 per cent., as the proportion of alcohol present.

The preparation examined was a very pale yellowish, translucent solid having a strong odor of methyl salicylate and a fainter odor of menthol. A package sold for 2 ounces contained 51.7 gm. Qualitative tests indicated the presence of alcohol, an iodid, menthol, methyl salicylate, potassium, sodium, combined fatty acids and a trace of glycerin. Thyroid extract was not found. Quantitative examination indicated the following approximate composition for Iosaline:

Alcohol (by weight)	48.05 per cent.
Menthol	2.07 per cent.
Methyl salicylate	10.25 per cent
Potassium iodid (4.25 per cent. iodin)	5.55 per cent.
Soap	12.68 per cent.
Glycerin	a trace
Water and undetermined matter to make	100.00 per cent.

Iosaline, therefore, appears to be a solidified, watery-alcoholic solution of soap containing potassium iodid, menthol and methyl salicylate. Physiologic tests carried out by rubbing the preparation on the skin and afterward testing the saliva and the urine for an iodid indicated that none of the potassium iodid is absorbed. Since Iosaline is claimed to contain 70 per cent. of alcohol and 5 per cent. of iodin, the alcohol content is but 68.7 per cent. and the iodin content but 85 per cent. of the amounts claimed. The phrase "combined iodin" is evidently meant to mislead, and adds the element of mystery on which preparations of this class rely so largely.

PHYLACOGENS—THE "PERSONAL ANIMOSITY" PLEA

To the Editor:—I was called on recently by one of Parke, Davis & Co.'s agents, in the interest of Phylacogens. He asked if I desired to be supplied with the literature concerning the Phylacogens. I declined, telling him that I preferred to get my information from THE JOURNAL of the American Medical Association. He was evidently loaded from headquarters with quite a "spiel" against THE JOURNAL. His claim was that the editor had had some personal misunderstanding with P., D. & Co. some years ago, and that the position of THE JOURNAL was wholly a matter of spite, on the part of the editor.

I am not aware that this claim has been made in any of the Phylacogen printed matter, but it was quite evident that this particular person has his speech well prepared. I imagine this argument will only be effective, if at all, with physicians who are unfamiliar with THE JOURNAL and its splendid work in fighting "patent-medicine" frauds.

J. E. MILLER, M.D., Rogersville, Tenn.

To the Editor:—Some time ago a representative of Parke, Davis & Company tried to interest me in Phylacogens. He succeeded in interesting me, but not favorably. He explained the attitude of THE JOURNAL of the American Medical Association by saying that you have been unfair to Parke, Davis & Company ever since your treatment of Taka-Diastase several years ago. He claimed that when you find Parke, Davis & Company at fault you make a great to-do about it but that when some of your favorites are caught you do not name them but speak of them as "a prominent drug house."

H. M. FRANCIS, M.D., Woodstock, Ill.

These letters are typical of many we have received from different parts of the country, showing that Parke, Davis & Co.'s detail men have "learned their little piece" and are reciting it with regularity and despatch. What the firm itself has to say on this point may be gathered from two quotations from letters sent out by Parke, Davis & Co. These particular letters were signed by E. G. Swift, general manager:

> ". . . The real motive and animus of the attack are to be sought in the determination of Doctor Simmons to dragoon Parke, Davis & Co. into submission to the Council on Pharmacy and Chemistry of the A. M. A."

And this:

> "The editor of THE JOURNAL, looking on the Council as his creature, has resolved to dragoon us into submission—to compel us to bend our neck to the yoke and introduce no specialty to the medical profession without the knowledge and permission of his Council."

The "personal animosity" argument has been used by most of the "patent-medicine" fakers whose frauds we have exposed and by not a few of the "ethical proprietary" manufacturers whose products we have had to criticize. This plea that personal malice actuates the exposures of pharmaceutical frauds has become wofully threadbare. It was only four or five years ago that some other manufacturers of "ethical proprietaries" whose products had come in for severe criticism were accusing the editor of THE JOURNAL of being hand in glove with Parke, Davis & Company! "So runs the world away."

Correspondence

A Personal Impression of Dr. Friedmann

To the Editor:—Everything of importance connected with Dr. Friedman's alleged "cure" for tuberculosis, has been fully set forth in THE JOURNAL. But for the fact that the many newspaper reports are confusing to some doctors as well as to the public, I would not write this letter.

I have just returned from Europe where I spent two months. I was alert to learn all I could about Dr. Friedmann and his remedy. I questioned both German and Af [illegible] medical men as to what the [illegible] heard from [illegible] ited the doctor's office [illegible] talked with hi agent, Mr. Hundt; I saw some of his patients at his office and met others and their friends at their hotels.

What evidence is there to support Dr. Friedmann's claims? Dr. Friedmann has publicly declared that no one but himself knows what his remedy is; he has given it to no one, and hence all evidence must come from him. His only published report must be regarded as entirely inadequate. In fact, all his reports are indefinite. He gives varying accounts of the number of cases treated. The statements as to the character of cases and the percentage of cures are equally indefinite. He showed me ten patients at his office, the first a boy claimed to be cured of tuberculosis of the bones of the hand, and the second claimed to be cured of a similar affection of the knee. Instead of showing me a record he had the mothers detail to me the histories, how they had applied to others without relief and finally were cured by Dr. Friedmann. These patients had been well a year and a half, and as the same patients were exhibited to other physicians at different times during the preceding month, I am sure they were "show cases," for there was no necessity for frequent visits to the clinic for cured cases. The other patients gave no evidence of special improvement. Most of them said they were no better, nor were any whom I visited in their hotels. Dr. Friedmann says that whenever the exudate which forms at the site of the injection begins to be absorbed, the patient always improves. I saw five patients in whom this was not the case.

I was struck with the superficial examinations and meager histories kept. I would not have mentioned this had it not been corroborated by a number of physicians, patients and friends who had made many visits to his office. In short, I did not see, nor could I hear of anything to indicate that Dr. Friedmann's patients were doing even so well as those with similar cases under ordinary treatment. He had not instructed any of those with whom I talked how to live, and I found all in unsuitable surroundings and doing the best they could with the knowledge they had received before.

It is hard for me to express in calm language the impressions Dr. Friedmann, his clinic, and his method made on me. Dr. Friedmann has made great claims, but he has failed to submit them to any efficient test. The evidence of his own results, taken even as he gives it, falls far short. His conduct of secrecy as far as the profession is concerned, his appeal to the public press, his spectacular gift of his discovery to men of prominence, his trip to America with a press-agent, in short, his whole attitude have been such as to excite distrust.

Edwin Walker, M.D., Evansville, Ind.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DENATURED ALCOHOL

To the Editor:—Please give the following information concerning denatured alcohol:

1. What substance is added to the alcohol and in what quantity?
2. Is this substance poisonous? If so, what quantity might be expected to produce poisoning? What would be the symptoms and treatment of such poisoning?
3. Does the addition of this substance alter the dissolving power of the alcohol?
4. What are the incompatibilities of this substance?
5. Is denatured alcohol suitable for internal administration or for making alcoholic preparations to be taken internally?

L. W. Johnson, P. A. Surg., U. S. Navy, Baltimore.

Answer.—1. Denatured alcohol or tax-free alcohol is alcohol rendered unfit for use as a beverage or as a medicine by the introduction of some denaturing substance. Among the formulas approved by the government for this purpose the following are the most generally used: A. To every 100 gallons ethyl alcohol (of not less than 180 degrees proof) there shall be added 10 gallons of approved methyl alcohol and one-half gallon approved benzin. B. To every 100 gallons of ethyl alcohol (of not less than 180 degrees proof) there shall be added 2 gallons of approved methyl alcohol and one-half gallon of approved pyridin bases.

2. The methyl alcohol that is used in both of the general formulas is decidedly poisonous. The other substances are also poisonous, although not so likely to produce serious symptoms as the methyl alcohol. The amounts of methyl alcohol causing poisoning are naturally often not known and seldom reported exactly. "A wineglassful," "half a pint," "about four ounces" are amounts reported as having caused death or blindness. In cases of poisoning by inhalation or absorption through the skin the amounts of course cannot be known. Idiosyncrasy seems to play a large part in methyl-alcohol poisoning, some persons being largely immune from permanent effects. When commercial methyl alcohol is used to denature alcohol, its unpleasant odor serves as a deterrent to poisoning. (See Wood, C. A.: Death and Blindness from Methyl- or Wood-Alcohol Poisoning, with Means of Prevention, The Journal, Nov. 30, 1912, p. 1962). The principal symptoms in case of methyl-alcohol poisoning have been the condition of intoxication similar to that produced by ethyl alcohol, accompanied by severe headache, nausea and vomiting, sweating, dilatation of the pupils, delirium and coma. Partial or total blindness has occurred in a large percentage of severe cases. The treatment of methyl-alcohol poisoning consists chiefly in the use of the stomach-pump and rectal injections for getting rid of the poison; heat applied to the body, especially the extremities, and internal stimulants, such as strychnin and coffee. An instance of poisoning from alcohol denatured with formaldehyd, due to an idiosyncrasy to the latter substance, is reported by Morgan (The Journal, Feb. 22, 1913, p. 590).

3. As the substance used for denaturing alcohol varies in different cases, it would be impracticable to consider the possible effects on the solvent power of the alcohol. As a rule, the substances added are solvents of the same general nature as ethyl alcohol itself.

4. As denatured alcohol is not used for medicinal purposes, there is little need to discuss this question.

5. No.

PHOSPHORUS MATCHES UNDER THE HUGHES-ESCH BILL

To the Editor:—I have been somewhat interested in phosphorus poisoning and in the proposal to tax ordinary phosphorus matches out of existence, and I would like to learn something about the new phosphorus matches that are to take the place of the old, common phosphorus matches. How much, if any, of yellow phosphorus will they contain?

D. H. P.

Answer.—The Hughes-Esch bill, by excessive taxation, will legislate the poisonous white phosphorus match out of existence in this country. The effect of this federal measure will be that no white phosphorus matches will be manufactured in the United States after June 30, 1913. A substitute, sesquisulphid of phosphorus, which is compounded from the nonpoisonous red amorphous phosphorus, will take the place of the poisonous white or yellow phosphorus as a prime combustible in the manufacture of matches.

RATTLESNAKE VENOM IN EPILEPSY

To the Editor:—The *Literary Digest*, Jan. 18, 1913, p. 128, cites an article in the *Technical World Magazine* (Chicago) concerning the treatment of epilepsy by injections of rattlesnake venom as carried on by Dr. Ralph H. Spangler. Can you tell me anything about this matter? Dr. Spangler's address is not given in the *Digest*, and I do not find his name listed in the directory under Chicago.

James V. Freeman, M.D., Jacksonville, Fla.

Answer.—The letter given above is one of a large number received regarding this treatment. These inquiries, many of which are from laymen, afford an illustration of the influence of sensational exaggeration of scientific work by the lay press. the effect of which must be to arouse the expectations (in most cases fruitlessly) of patients afflicted with a practically hopeless disease.

A few years ago rattlesnake venom was being used in the treatment of respiratory diseases and had a very enthusiastic advocate in Dr. Thomas J. Mays of Philadelphia. Dr. Mays used the preparation in the treatment of tuberculosis. He had for an assistant Dr. R. H. Spangler who, later, began using the same material in the treatment of epilepsy. Newspaper articles followed the reading of some of Dr. Spangler's papers. According to our understanding, Dr. Spangler does not assert that rattlesnake venom will cure epilepsy; he emphasizes the fact that its utility in epilepsy is practically confined to the idiopathic form in which no serious brain changes have occurred; that is to say, the initial stages of the disease. In properly selected cases, however, he asserts that it does alleviate the symptoms and that, in some cases, there is a cessation in the attacks for periods which encourage further investigation.

The remittent or intermittent course that epilepsy frequently pursues makes it necessary in judging any form of treatment to allow a sufficient time to elapse before arriving at any conclusion as to its value. The venom treatment of epilepsy has not been used for a sufficient length of time to determine its true value. The dried venom can be obtained from A. M. Nicholson, Orlando, Fla., and the solution prepared so that a dose of 1/200 grain (not gram) will be contained in 5 or 10 drops. The venom is dissolved in sterilized water, and 0.4 per cent. trikresol is added for preservative purposes. Under the circumstances, however, we advise physicians to wait for further information before resorting to this treatment.

HOOKWORM ERADICATION

To the Editor:—Will you give me information in regard to the plan and methods of the Rockefeller Sanitary Commission for the Eradication of Hookworm? How does the commission cooperate with the state boards of health? Are certain physicians appointed by the governors of the states to make investigations for hookworm in the schools, etc., and does the Rockefeller commission pay the expenses? Where may I obtain literature in regard to hookworm and the methods adopted for its eradication?

C. D. S., Oklahoma.

ANSWER.—The Rockefeller Sanitary Commission for the Eradication of Hookworm Disease was organized in October, 1909. Wickliffe Rose, 725 Southern Building, Washington, D. C., is administrative secretary, and Dr. C. W. Stiles, Twenty-Fifth and E Streets, N. W., Washington, D. C., is scientific secretary. The objects of the commission were to determine the area and the degree of infection with hookworm, to treat the sufferers and to remove the source of infection by putting a stop to soil pollution. The state was adopted as the unit in the organization, and cooperation with the existing health organizations was established. The commission and the state boards of health jointly appoint a state director of sanitation, who organizes and directs the work in the state. A field force of sanitary inspectors and a laboratory force is also provided, and these in cooperation with local health boards and individual physicians and citizens constitute the organization. In addition to making the sanitary survey and treating patients, one of the chief objects of the hookworm fight is to educate the people in prevention; this is accomplished by enlisting physicians in the work, by articles in the newspapers, by distributing bulletins and letters, by lectures, by personal visits and by demonstrations. One effective means of reaching a large number of people, both for treatment and for their education in sanitation, is through the establishment of local temporary dispensaries. The newspapers, of course, are enlisted in distributing information about the disease and in urging the people to take treatment and observe sanitary regulations. The expense is borne jointly by the Rockefeller commission, the states and the counties. The second annual report of the commission shows that nine states expended during the year 1911 a total of $30,000 and the commission about $130,000 for salaries, equipment and expenses; in addition, the latter spent about $18,000 for administrative expenses. The second annual report of the commission contains a complete list of publications of the United States Public Health Service and of the commission on the subject of hookworm, all of which may be had on application. A number of states also publish valuable pamphlets on the disease in the form of reports of the state boards of health. Among these states are Florida, North and South Carolina and Kentucky.

LITERATURE ON ELECTRIC SHOCK

To the Editor:—Please tell me where I can obtain literature pertaining to electric shock or death caused by electric shock.

C. A. HAINES, M.D., Sayre, Pa.

ANSWER.—The following are some articles on this subject:

Jellinek, S.: Pathology and Therapy of Electric Accidents, *Wien. klin. Wchnschr.*, Dec. 10, 1909; abstr. in THE JOURNAL, Jan. 23, 1909, p. 338.
Jellinek, S.: Electric Accidents, *Wien. klin. Wchnschr.*, Dec. 15, 1910.
Jellinek, S.: Treatment of Electric Accidents, *Wien. klin. Wchnschr.*, Feb. 21, 1909, abstr. in THE JOURNAL, April 3, 1909, p. 1150.
Jellinek, S.: First Aid in Electric Accidents, *Wien. klin. Wchnschr.*, Feb. 10, 1910, abstr. in THE JOURNAL, March 19, 1910, p. 1017.
Spitzka, E. A.: Resuscitation of Persons Shocked by Electricity, *Jour. Med. Soc. New Jersey*, April, 1909.
Stanton and Krida: Cause of Death by Commercial Electric Currents and the Treatment, *New York State Jour. Med.*, September, 1910.
Moorhead, J. J.: Injury by Electricity, THE JOURNAL, April 2, 1910, p. 1127.
Robinovitch, L. G.: Electric Analgesia and Electric Resuscitation, After Heart Failure Under Chloroform or Electrocution, THE JOURNAL, Feb. 18, 1911, p. 478.
Oliver, T.: Pathology and Treatment of Injuries Caused by Electricity, *Lancet*, London, Feb. 11, 1911.
Preliminary Work of the Resuscitation Commission, *Electrical World*, March 2, 1912.
Martin, T. C.: Resuscitation from Electric Shock, *Scient. Am.*, July 20, 1912.
First Aid for One Shocked by Electricity, *Texas State Bd. of Health Bull.*, October, 1912.

INSANITY AND SYPHILIS

To the Editor:—1. Can you refer me to a work that treats of insanity from a criminal and legal point of view, and the legal points necessary to prove a person insane? Also some authoritative work that treats of the mental symptoms of congenital syphilis and their relation to insanity?

2. Have you any statistics that show the percentage of Indians that have either congenital or acquired syphilis?

3. Could a Wassermann reaction show positive in a young man free from acquired syphilis, provided either of his parents had syphilis before their marriage?

H. A. SHARPE, M.D., L'Anse, Mich.

ANSWER.—1. The following will give the information required:

Witthaus and Becker: Medical Jurisprudence and Toxicology, William Wood & Co., 51 Fifth Avenue, New York, four volumes, price for each volume, $6. The third volume treats of this subject.
Peterson and Haines, Legal Medicine and Toxicology, W. B. Saunders Co., West Washington Square, Philadelphia, two volumes, price per volume, net, $5.
Hutchinson's Syphilis, chapter on Nervous and Mental Symptoms of Internal Syphilis, Funk & Wagnalls Co., 44-60 East Twenty-Third Street, New York, price $3.
Church and Peterson: Nervous and Mental Diseases, W. B. Saunders Co., West Washington Square, Philadelphia, price $5.

2. We do not find any such statistics.

3. The question is vague. The Wassermann reaction may be positive in case of congenital syphilis, but is not necessarily so.

SECOND EDITION OF NOSTRUMS AND QUACKERY

To the Editor:—1. What is Gallol? I do not find it in "Nostrums and Quackery." 2. Is it not time for Volume II of that work?

C. HEDGER, M.D., Chicago.

ANSWER.—1. Gallol belongs to the prescription fake type of nostrum. We do not know its composition, and the expense of analyzing it would hardly be justified in view of the fact that frauds of this kind have but a meteoric existence. Prescription fake nostrums in general were discussed in THE JOURNAL, Dec. 11, 1909, p. 2019, and in "Nostrums and Quackery," Edition 2, page 628.

2. The second edition of "Nostrums and Quackery" has recently been issued. It contains practically all of the matter in the first edition—brought up to date—and a large amount of additional matter, making it a volume of over 700 pages with over 300 illustrations. The new edition is bound in green cloth, stamped in gold, and sells for $1.50.

METHOD OF COMPOUNDING ACNE PRESCRIPTION

To the Editor:—Page 585, issue of Feb. 22, 1913. Prescription for acne. Gave to patient. Say, you should *see* the mixture.

W. L. MILNER, M.D., Cincinnati.

ANSWER.—With proper manipulations a very satisfactory mixture may be prepared. The sulphurated potash should be dissolved in a portion of the water and this solution added to the zinc sulphate also dissolved in water. This will produce zinc sulphid in a finely divided condition. To the sulphur contained in a mortar, this suspension of zinc sulphid may then be added gradually and with constant trituration. Thus a mixture will be obtained which readily becomes homogeneous when shaken. We have sent our correspondent a specimen of the mixture made in our chemical laboratory.

TUBERCULIN BY MOUTH IS OF DOUBTFUL VALUE

To the Editor:—Can as favorable results be obtained by the administration of tuberculin by the mouth as by the subcutaneous method?

M. L. STEVENSON, M.D., Covington, La.

ANSWER.—The administration of tuberculin by the mouth gives too uncertain results to make it advisable. According to New and Nonofficial Remedies, 1912, p. 217, "Tuberculin pil or capsules for stomach ingestio[illegible] d [illegible] er rec are too uncertain of absorpti [illegible] tion."

THE BUSINESS SIDE OF MEDICINE

To the Editor:—Please give references to articles appearing in The Journal within the past three years on the business side of medicine, fees and contract practice. V. D. L.

Answer.—The following will prove of interest in connection with these subjects:

The Cheerful Reception Room, Medical Economics Department, The Journal, Feb. 26, 1910, p. 725.
Club Practice and State Insurance in Great Britain, Germany, Austria and France, Medical Economics Department, The Journal, Feb. 26, 1910, p. 725.
Langworthy, H. G.: A Practical Business Bureau for County Societies, Medical Economics Department, The Journal, Oct. 15, 1910, p. 1406.
Division of Fees, Queries and Minor Notes Department, The Journal, Dec. 18, 1909, p. 2117.
The Evils of the Contract System: Report of the Committee Appointed by the Erie County Medical Society to Investigate Unethical Contract Practice, Medical Economics Department, The Journal, Aug. 19, 1911, p. 674.
Nutt, G. D.: Medical Profession To-Day and Business End of It, *Penn. Med. Jour.*, August, 1911; abstr. The Journal, Sept. 16, 1911, p. 1009.
Substitutes for Physicians Absent on Vacations, Berlin Letter, The Journal, Nov. 16, 1912, p. 1608.
Haughey, W. H.: Proposed Solution for Certain Phases of Contract Practice, *Jour. Mich. State Med. Soc.*, January, 1911; abstr. The Journal, Jan. 21, 1911, p. 225.
Lord, J. P.: The Secret Commission Evil, The Journal, March 11, 1911, p. 725.
The Secret Commission Evil, editorial, The Journal, March 11, 1911, p. 748.
The Secret Commission Evil, editorial, *Colorado Med.*, February, 1911; reproduced in The Journal, March 11, 1911, p. 770.
The Secret Commission Evil, Correspondence, The Journal, March 25, 1911, p. 916, April 1, 1911, p. 987.
Haase, Charles: Financial Problems, The Journal, April 8, 1911, p. 1053.
Discreditable Remuneration in Contract Practice, Berlin Letter, The Journal, Dec. 14, 1912, p. 2169.
Conference on Contract Practice, Berlin Letter, The Journal, Dec. 28, 1912, p. 2324.
Skeel, R. E.: Ethics of Contract Medical Practice and Its Economic Advantage to the Community, *Cleveland Med. Jour.*, November, 1911; abstr., The Journal, Jan. 6, 1912, p. 65.
Tuckerman, J. E.: Economic Effect of Contract Medical Practice on Medical Profession, *Cleveland Med. Jour.*, November, 1911; abstr., The Journal, Jan. 6, 1912, p. 65.
Hamann, C. A.: Condition and Control of Contract Medical Practice in Other Cities of the Country, *Cleveland Med. Jour.*, November, 1911; abstr., The Journal, Jan. 6, 1912, p. 66.

"DISTURBANCES OF THE HEART" TO BE BOUND IN BOOK FORM

To the Editor:—I have read the articles you are publishing on "Disturbances of the Heart" with much interest and, I think, profit. If these were combined in cheaply bound form, I believe that they would find ready sale and be a valuable addition to one's library.

H. W. Waterous, M.D., Galva, Ill.

To the Editor:—Please let me know if the articles published in The Journal under the head of Therapeutics, on "Disturbances of the Heart," are to be put out in pamphlet form. If they are not, I shall have to save my copies of The Journal, as I think the articles well worth keeping.

George E. Lyon, M.D., St. Louis, Mo.

Answer.—These represent the sentiment of many letters received. The series of articles will be issued in book form as a companion book to the "Handbook of Therapy."

SANITATION IN THE CANAL ZONE

Dr. F. W. Thomas, Claremont, Cal.: Articles by Colonel Gorgas, chief sanitary officer of the Canal Zone, have appeared in The Journal as follows:

Sanitation of the Tropics with Special Reference to Malaria and Yellow Fever, The Journal, April 3, 1909, p. 1075.
Sanitation at Panama, The Journal, March 30, 1912, p. 907.
Part Sanitation is Playing in the Construction of Panama Canal, The Journal, Aug. 31, 1909, p. 597.
Conquest of the Tropics for the White Race, The Journal, June 19, 1909, p 1967.

HOW MANY PHYSICIANS GRADUATE, QUALIFY AND DIE ANNUALLY?

To the Editor:—Please tell me:

1. The average number of graduates the medical colleges of the United States turn out annually.
2. The percentage of those who do not secure licenses after graduating.
3. The number of practitioners that die annually.
4. The average income of physicians in the United States.

E. T. C.

Answer.—1. About 4,900 each year on the average for the last ten years. This question is answered at length with detailed discussion and elaborate tabulation of the facts in the annual Educational Number of The Journal, the last having been issued Aug. 24, 1912. A copy of this issue will be sent on receipt of 15 cents in stamps.

2. Data are not available to give more than an approximate answer. Information collected indicates that of the graduates of 1908, about 7 per cent. have not yet passed a state board; of the graduates of 1909, 8 per cent.; of the graduates of 1910, 9.5 per cent. and of the graduates of 1911, about 15 per cent. The actual number would probably not exceed 5 per cent. These data are given in detail in the annual State Board Number of The Journal; the last one was issued May 25, 1912. A copy of this will be sent on receipt of 15c in stamps.

3. About 2,100, taking the average of the past ten years. There is an editorial on this subject, giving additional details, in the first issue of The Journal each year.

4. Various estimates are from $1,000 to $1,400, but we place no dependence on these estimates. There are no sufficient data available on which to do anything more than to guess. We discussed this point in The Journal, Nov. 2, 1912, p. 1641.

TECHNIC OF THE LUETIN TEST

Dr. A. A. Herold, Shreveport, La.: The luetin test is made like any other vaccination test on the skin. Details are given in the article by Dr. H. Noguchi, The Journal, Oct. 5, 1912, p. 1262.

NOTEWORTHY FECUNDITY

To the Editor:—On February 20, at 1 a. m., I delivered Mrs. Y. of a child at term and fully developed. She is 30 years old. This was her eighth confinement. Her previous confinement was May 1, 1912, at 2 p. m. Period between is nine months, eighteen days and eleven hours. This appears to be a case of noteworthy fecundity.

F. F. Mendenhall, M.D., Elmwood, Ind.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

LEGISLATIVE DEVELOPMENTS

The number of bills on public health subjects introduced this year is greater than ever before. It is possible to mention only a few of the most important developments of the last two weeks.

ARIZONA

H. B. 18 regulates the practice of medicine, providing for a board of two "regulars," one homeopath, one eclectic and one osteopath, which board shall have power to issue three forms of certificates, one authorizing the practice of medicine and surgery, one authorizing the practice of osteopathy and one authorizing any other system of treating the sick. In addition to the presentation of diplomas, all applicants must pass an examination in anatomy, histology, gynecology, pathology, bacteriology, chemistry, physiology, obstetrics, diagnosis and hygiene. This bill resembles the Wisconsin bill in some particulars.

ARKANSAS

The bill creating a state board of health has passed both houses and has been signed by the governor. This bill was summarized in The Journal, February 1, p. 391.

CALIFORNIA

Probably no state legislature has before it more bills on public health subjects than the California legislature, more than one hundred bills having been introduced so far. The California *State Journal of Medicine*, in discussing the various bills introduced, comments on twenty-three bills, all of which make some change in the existing law regarding the practice of medicine. About thirty-five bills are now before the legislature on the single question of the state regulation of the practice of medicine. Eighty bills relate to women and children, and their employment.

COLORADO

A similar condition exists in Colorado, in which a large number of bills have been introduced, attempting to regulate every possible phase of public health. H. B. 720 creates a state department of public health in place of the present state board. There are six bills amending the medical practice act and several amending the state board of health law. There are also a sterilization bill; a bill providing for the sanitation of places where foods are manufactured or stored, and bills providing for factory inspection and for the reporting of occupational diseases.

IDAHO

H. B. 246 amends the medical practice act by requiring only a high-school education and a diploma as a condition for a license.

INDIANA

The anticocain bill has passed the house. The optometry bill has been killed in the house. The chiropractic bill has been killed in the senate.

IOWA

S. F. 253 requires all food packages to be marked as to their contents and quantity. House bills provide for a state commissioner of health in place of the present board and for medical school inspection.

MASSACHUSETTS

H. 482 is an antivaccination measure which prohibits the use, distribution or sale of vaccine virus; H. 981 reorganizes the state board of health, providing five members; a chairman at $8,000 per year, a secretary and engineer at $5,000 each, and two other members at $3,500.

MICHIGAN

S. B. 146 provides for the appointment and qualifications of municipal health officers, and authorizes the governor to remove health officers or members of a municipal health board; Senator Amberson has introduced a bill drafted by Dr. Victor C. Vaughan, providing for the reorganization of the state department of health, by which the state is divided into health districts, composed of one county each, except that each city of more than 18,000 shall form a separate district. Any two counties having a population of less than 20,000 may organize into a joint health district. Each district is to have a health commissioner appointed for four years who is to act as county physician, and is to receive a salary of from $1,500 to $3,000, according to the population of the district.

MINNESOTA

Minnesota seems particularly interested in tuberculosis, bills making tuberculosis reportable, creating a state tuberculosis commission and providing for county tuberculosis sanatoriums being under consideration.

MISSOURI

H. B. 650 amends the medical practice act by exempting "any person practicing mind-cure or any other method of healing, where no poisons or dangerous drugs are employed or surgical operations performed.

NEBRASKA

About fifty bills on public health topics have been introduced, of which the committee on public policy and legislation of the state medical association has acted on about thirty The state committee has approved of bills on occupational diseases; issuing of marriage license to those who are physically unfit; the sanitation of factories, mills and workshops; the division of fees; prohibiting common drinking-cups; the inspection of public institutions and schools by county boards, and for sterilization of criminals.

NEW HAMPSHIRE

A bill has been introduced, making it a criminal offense for practicing physicians to refuse to enter into consultation with other physicians.

NEW YORK

The state factory commission has presented thirty-two bills regulating the hours and conditions of employment of men, women and children employed in various factories; also providing for ventilation, toilet facilities, heating, lighting, etc. An important series of bills deals with measures for the prevention of accidents. At the request of Governor Sulzer, a bill has been introduced creating a sanitary milk department and prohibiting the use of any poisonous coloring matter in food products. Health Commissioner Lederle of New York has protested against the bill prohibiting tuberculosis hospitals within the city limits. Bills have been introduced regulating registered nurses, appropriating $10,000 for an antitoxin farm, defining unprofessional conduct on the part of physicians, creating a commission for the purpose of investigating animal experimentation, restricting the sale of cocain, and providing for the inspection of oyster-beds. A senate bill providing for health certificates as a requirement for marriage licenses has been killed in committee. An antivivisection bill has been defeated in the senate committee by a vote of 69.

NORTH CAROLINA

The state legislature has passed a bill raising the standard requirements for admission to medical schools, as well as the requirements for graduation and license. These increased conditions go into effect in 1917. The bill providing for the registration of vital statistics will also probably pass.

OREGON

S. B. 300 forbids the advertising of cures for sexual diseases. It has passed both houses, and will, undoubtedly, be signed by the governor. It is probably the most satisfactory law on this subject that has been enacted. It forbids the publication of any advertisement of cures of sexual diseases, and provides for the punishment both of the advertiser and of the owner or manager of any newspaper in which advertisement shall appear. Another bill provides for a state board of control over the eleven state institutions now having separate boards. A bill has passed both houses permitting persons failing to secure a license to practice medicine, to be reexamined only in those subjects in which they have failed. Another bill, which has passed both houses, appropriates $10,000 for public education in sex hygiene. This fund is to be expended through the treasury of the Oregon Social Hygiene Society which is required to file a report accounting for the expenditure of the amount. Another bill requires the reporting of all cases of tuberculosis.

PENNSYLVANIA

Several bills have been introduced, amending the laws regulating the preparation and marketing of meat, also enlarging the powers of the State Board of Health for the inspection of all animals intended for food. Bills have also been introduced providing for the payment of 20 cents to a physician for each report of a communicable disease and requiring all mills where 500 persons are employed to have a physician in attendance for the protection of the employees.

SOUTH CAROLINA

A bill has been introduced, enlarging the power of the state board of health, giving it authority to enforce rules and regulations for the sanitation of passenger cars, steamboats, penitentiaries, hotels, schools and all other public places, to provide for the care of isolated persons having communicable diseases, to regulate the disposal of sewage and waste in any incorporated city or village, to provide for the investigation of the causes of disease, etc. The bill, although a short one, is one of the broadest on this subject that has been presented.

TENNESSEE

The chiropractic bill, which applied only to Knox County, has been vetoed by the governor. Four bills of special interest to the medical profession are now before the legislature. These are a vital statistics bill, a medical inspection bill, a bill amending the medical practice act, and a bill changing the method of appointment of the State Board of Health.

UTAH

S. B. 173 making tuberculosis reportable, has passed the senate.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.

CALIFORNIA: San Francisco, April 1. Sec., Dr. Charles B. Pinkham, 929 Butler Building.

COLORADO: 612 Empire Building, Denver, April 1. Sec., Dr. David A. Strickler.

IDAHO: Boise, April 1. Sec., Dr. O. J. Allen, Bellevue.

MINNESOTA: State University, Minneapolis, April 1-4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.

MONTANA: The Capitol, Helena, April 1. Sec., Dr. W. C. Riddell.

OKLAHOMA: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.

RHODE ISLAND: State House, Providence, April 3. Sec., Dr. Gardner T. Swarts.

WEST VIRGINIA: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

Strengthening the Medical Course

The Association of Medical Colleges wants to add one more year to the course in medicine, making it five instead of four. Even at that rate, no one need fear that the output will fall short of the demand. Thorough preparation in the science of treating human disease is more important than granting diplomas and flooding the country with half-baked M.D.'s. . . . The Association likewise insists on raising the standard of entrance requirements, which unquestionably has been much too low, making it too easy to get in and out of medical colleges. Young men and women with but a smattering of elementary education have been racing through the professional schools. No one can safely deny that the tendency is demoralizing to the profession; that ethics gives way to commercialism and that the overweening spirit "to get" too often supplants the exalted purpose of service to humanity. If lengthening the term of preparation helps to correct these abuses, so much the better for the well and the sick.—*Omaha Bee*, March 2, 1913.

Virginia December Report

Dr. Herbert Old, secretary of the State Board of Medical Examiners of Virginia, reports the written examination held at Richmond, Dec. 17-20, 1912. The number of subjects examined in was 17; total number of questions asked, 104; percentage required to pass, 75. The total number of candidates examined was 31, of whom 19 passed and 12 failed including 1 osteopath. Twenty-three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University, Washington, D. C.... (*) 76;	(1912)	77, 78
Tulane University of Louisiana	(1912)	75
University of Maryland	(1912)	76
Maryland Medical College	(1909)	75
Leonard Medical School	(1912)	75, 80, 80
Memphis Hospital Medical College	(1902)	83
Meharry Medical College	(1912)	79
University of the South	(1909)	75
Medical College of Virginia (1911) 75;	(1912)	77, 78, 80, 86, (†) 75.
University College of Medicine, Richmond	(1912)	75.2

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1912)	68
Maryland Medical College	(1909)	69.8
Leonard Medical School.... (1910) 73;	(1912)	71.5
Meharry Medical College	(1911)	55
University of West Tennessee	(1911)	58
Chattanooga Medical College	(1908)	52
University of Tennessee	(1912)	53
Medical College of Virginia.... (1910) 70;	(1912)	62, 72.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1908)	Illinois
Georgetown University	(1905)	Dist. Colum.
College of Physicians and Surgeons, Chicago	(1905)	Iowa
Drake University	(1909)	Iowa
University of Louisville	(1910)	Maryland
Louisville and Hospital Medical College	(1908)	Tennessee
College of Physicians and Surgeons, Baltimore	(1903)	
(1907) West Virginia	(1904)	Maryland
University of Maryland (1905) (1911) Maryland;	(1910)	
West Virginia	(1910)	N. Carolina
Harvard Medical School..(1884) Pennsylvania;	(1890)	New York
Columbia University, College of Phys. and Surg.	(1894)	N Carolina
North Carolina Medical College	(1910)	W. Virginia
University of Pennsylvania	(1889)	Washington
University of Nashville	(1905)	Tennessee
Tennessee Medical College	(1900)	Tennessee
University of Virginia	(1895)	N. Carolina
Medical College of Virginia	(1908)	W. Virginia
University College of Medicine, Richmond	(1911)	N. Carolina

* Work completed, but for special reason has not yet secured diploma.

† Work completed; will receive diploma in June, 1913.

Oklahoma January Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Oklahoma City, Jan. 14-15, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 70. The total number of candidates examined was 12, of whom 8 passed including 1 osteopath and four failed. Four candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1912)	70, 71
Rush Medical College	(1896)	76
College of Physicians and Surgeons, Chicago	(1911)	85
Kansas City Hahnemann Medical College	(1910)	71
Jefferson Medical College	(1912)	82
Memphis Hospital Medical College	(1912)	74

FAILED

College	Year Grad.	Per Cent.
College of Med. and Surg., Physiomedical, Chicago	(1903)	54
Barnes Medical College	(1905)	*76
Memphis Hospital Medical College	(1911)	66
Meharry Medical College	(1909)	69

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hospital College of Medicine, Louisville	(1904)	Tennessee
Louisville Medical College	(1906)	Kentucky
Kentucky School of Medicine	(1876)	Texas
Tulane University of Louisiana	(1898)	Texas

* Fell below 50 per cent. in one branch.

The questions asked were as follows:

ANATOMY AND HISTOLOGY

1. Draw a diagram showing the arrangement of tarsal bones. 2. Describe the ankle-joint. 3. Give the insertion and the nerve-supply of the pectoralis major muscle. 4. Name the principal fossae at the base of the skull. 5. Locate the hypophysis cerebri, or pituitary body. 6. Give a method for locating the fourth lumbar interspace. 7. Name the principal branches of the internal carotid artery. 8. What is the difference between striated and non-striated muscular fiber? 9. Name the layers of the skin, with subdivisions of each. 10. Briefly describe a uriniferous tube.

MATERIA MEDICA AND THERAPEUTICS

Give indications for the use of the following: 1. Aconite. 2. Chloral hydrate. 3. Nux vomica. 4. Magnesium sulphate. 5. Veratrum viride. 6. Cantharides. Treat the following diseases, giving doses of drugs used, their therapeutic effect, diet and prognosis: 7. Tuberculosis. 8. Tabes dorsalis. 9. Malaria. 10. Rheumatism.

TOXICOLOGY AND MEDICAL JURISPRUDENCE

1. Give ten visceral changes leading to sudden death. 2. Give the post-mortem appearances of death from starvation. 3. Give some of the important symptoms of insanity. 4. What are the legal rights of physicians in regard to their relations with their patients? 5. What is understood by manic depressive insanity? 6. How does quinin produce death? What is a fatal dose? 7. How does turpentine produce death? What is a fatal dose? 8. What are the symptoms of chronic poisoning by lead? 9. What are the symptoms of nicotin poisoning? 10. What would be your attitude in regard to professional secrets?

BACTERIOLOGY AND PATHOLOGY

1. Name five glands most frequently affected by amyloid degeneration, and locate each gland. 2. Name three changes that take place in extravasated blood. 3. What is infarction? describe same, and tell where most frequently found. 4. What is a metastatic abscess? Give cause for same. 5. Describe the changes that take place in the structure of a tuberculous hip-joint. 6. Define sarcomatous tumor, melanosarcoma, fibroma, neuroma, endothelioma. 7. What microscopic differences do you find in the throat lesions of diphtheria and follicular tonsillitis? 8. Define bacteria; leukocytes; coccus; spirillum; phagocytes; asepsis; antiseptic; sterile. 9. Define mycelium; flagellum; ptomains. 10. What is tuberculin? How obtained? How used? Do you always have a reaction from its use? If so, name the most common symptoms.

SURGERY

1. Describe active congestion; passive congestion. State their points of difference. 2. Give the treatment for rattlesnake bite. 3. What are the most approved operative procedures in the treatment of varicose veins of the lower extremities? 4. Give treatment of acute suppurative osteomyelitis. 5. What symptoms follow division of the facial nerve outside of the skull? 6. What are the complications of dislocation of the hip? 7. What is the treatment of depressed fracture of the skull? 8. What are the possible mechanical obstructions in the reduction of fractures? 9. Give the indica-

tions for operating in a compound fracture of the thigh, and describe the operation in detail. 10. Mention the symptoms and signs of acute appendicitis.

PHYSICAL DIAGNOSIS

1. What is a stethoscope? Name its uses. 2. Name the advantages of the stetoscope. 3. Give technic of auscultation. 4. Describe and give causes for amphoric breathing. 5. How would you determine the areas of cardiac dulness? 6. What is the clinical value of the superficial area of cardiac dulness? 7. What are the causes of heart sounds? 8. Describe first sound of a healthy heart. 9. Diagnose aortic aneurysm. 10. Give physical signs of pulmonary tuberculosis in third stage.

GYNECOLOGY

1. Give etiology and treatment of pelvic abscess. 2. Describe the blood-supply of the uterus and ovaries. 3. Why does retrodisplacement of the uterus cause leukorrhea? 4. Give early symptoms of cancer of the uterus. Give treatment. 5. Diagnose carcinoma of the breast. 6. What are the most common causes of sterility? 7. Give causes of menorrhagia. 8. Give causes and treatment of ulcer of the cervix. 9. Give indications for curettage. 10. Diagnose uterine fibroid.

PHYSIOLOGY

1. What secreting glands are found in the walls of the intestines? 2. What are the functions of the eustachian tube? 3. Draw a diagram of a hemisphere of the brain showing the fissure of Rolando; also locate motor centers on diagram. 4. What is the function of the semilunar valves guarding the aorta? Does this valve contribute to the sounds of the heart? If so, which one? 5. What would be the result of the removal of the adrenal bodies? 6. Why do the veins of the brain not have valves? 7. What is the function of the cerebellum? 8. Where do the white blood-corpuscles originate? 9. Give deep origin of third cranial nerve, and tell its function. 10. Name four ductless glands.

CHEMISTRY

1. Give three examples, by symbols, showing that there is one element common in all acids. 2. Give physical, chemical and physiologic properties of ptomains. 3. What is an amalgam? An alloy? 4. Give antidotes for carbolic, nitric and hydrochloric acids. 5. In case where specific gravity of urine is 1.030 or 1.032 and there is considerable sediment in urine, if examination shows no albumin, what would the sediment likely be composed of? 6. What are the halogens? 7. (a) What is collodion, and for what used? (b) Give symbols of hydrogen peroxid. 8. Give Fehling's test. 9. What is a base, a salt and an acid? 10. How are formaldehyd and potassium permanganate used together?

OBSTETRICS AND HYGIENE

1. What do you carry in your obstetric bag? 2. In vertex presentation, state how you would differentiate the anterior from the posterior fontanel. 3. Define, give etiology and treatment of milk-leg. 4. Give indications for producing an abortion. How would you proceed? 5. Give indications for the induction of premature labor. Give, in detail, your procedure. 6. Give instructions for the care of the mother for the first two days after delivery. 7. Give instructions for the care of the child for the first two days after birth. 8. Describe a fetus delivered during the sixth month. 9. How would you treat convulsions coming on after delivery? 10. When pneumonia is prevalent, how would you instruct one to prevent his contracting pneumonia?

Book Notices

LEAD-POISONING AND LEAD ABSORPTION. The Symptoms, Pathology and Prevention, with Special Reference to Their Industrial Origin and an Account of the Principal Processes Involving Risk. By Thomas M. Legge, M.D., D.P.H., H.M. Medical Inspector of Factories, and Kenneth W. Goadby, M.R.C.S., D.P.H., Pathologist and Lecturer on Bacteriology, National Dental Hospital, London. International Medical Monographs. General Editors: Leonard Hill, M.B., F.R.S., and William Bulloch, M.D. Cloth. Price, $3.50. Pp. 308, with illustrations. New York: Longmans, Green & Co., 1912.

This is one of the series of International Medical Monographs, written by two men whose experience entitles them to speak with authority on industrial plumbism. T. M. Legge is medical inspector of factories for Great Britain, and Kenneth Goadby is "appointed surgeon to certain smelting and white-lead factories in East London." This term does not mean, as it would in America, that Dr. Goadby has charge of the surgical work only of these factories. His function is to examine all employees weekly or fortnightly for signs of lead-poisoning.

The book is written in a style to be understood by laymen as well as by medical men. It is not a critical review of the subject so much as a clear statement of the authors' conclusions from their own experience. Their principal thesis is that lead-poisoning is mainly dust-poisoning, that in the vast majority of cases of industrial plumbism the portal of entry of lead and its compounds is through the respiratory tract. This statement is supported by statistics of poisoning in the different trades, the greatest incidence and the most rapidly developing cases occurring in the very dusty trades (white lead, red lead, storage batteries, pottery glazing) and especially in those operations attended with the greatest amount of dust. Experiments on cats are also cited to prove that poisoning occurs with greater rapidity and certainty when the animals inhale the dust than when they consume it with their food. The German view that the greater part of the inspired lead-dust is swallowed with the saliva and eventually reaches the intestines is refuted by the observation that the animals made to inhale lead-dust succumbed to an amount which was less than one-tenth of that administered in food to other animals which showed no symptoms. The ultimate fate of the inhaled dust was not ascertained. There are interesting chapters on plumbism of the central nervous system, in which Edinger's *Aufbrauchtheorie* is fully discussed. Perhaps the most valuable part of the book is that dealing with preventive measures in workshops and factories. These are not all applicable to American methods of industry, but in the main they are, and in all that regards dust prevention and the personal care of the workman they can be recommended to the increasing body of physicians who are attached in advisory capacity to large industrial establishments in the United States.

LES ORIGINES DE LA TRÉPANATION DÉCOMPRESSIVE. Trépanation Néolithique, Trépanation Pré-Colombienne, Trépanation des Kabyles, Trépanation Traditionelle. Par le Dr. Lucas-Championnière, Chirurgien Honoraire de l'Hôtel-Dieu. Paper. Price, 5 francs. Pp. 131, with 32 illustrations. Paris: G. Steinheil, 1912.

In this book the author gives his opinion as to the technic employed and the indications for trephining among the peoples of long ago and among those of our time who have not been considered as possessed of our surgical and anatomic knowledge. In arriving at this opinion he has studied the trephined skulls of prehistoric peoples, those of the pre-Columbian Peruvians, and those found in the old cemeteries of the Christian age. Trephining is still practiced as a custom surviving from long ago among the Berbers of Algiers, the Montenegrins and the miners of Cornwall. Some evidence was gained from the first and last of these sources. The author concludes that trephining was performed largely by means of a boring instrument; the holes surrounding the piece of skull to be removed touching or nearly touching each other. Severe pain in the head following on or independent of trauma is considered as the chief indication for the operation. Illustrations show trephined skulls from prehistoric caves in France and from pre-Columbian Peru.

SERUM DIAGNOSIS OF SYPHILIS AND LUETIN REACTION. Together with the Butyric Acid Test for Syphilis. By Hideyo Noguchi, M.D., M.Sc. Cloth. Price, $3. Pp. 306, with 23 illustrations. Philadelphia. J. B. Lippincott Company, 1912.

The third edition of Noguchi's work differs little from the previous one in the account of the technic of the Wassermann test and its modifications. By the use of extracts of pure cultures of the *Spirochaeta pallida* the author has been able to show that in early cases of syphilis it is not a true specific antibody that gives the positive result to the Wassermann reaction, although such an antibody is found in immunized animals and in some of the late cases of human syphilis. These findings suggest new problems in diagnosis and prognosis of the disease. A chapter is added on the luetin reaction, illustrated by several colored plates. The book thus brings the serodiagnosis of syphilis fully up to date.

THE COURSE OF OPERATIVE SURGERY. A Handbook for Practitioners and Students. By Prof. Dr. Victor Schmieden, Privatdocent of Surgery in the University of Berlin, with a Foreword by Prof. Dr. A. Bier. Translated and Edited by Arthur Turnbull, M.B., M.A., B.Sc., Demonstrator of Anatomy in the University of Glasgow. Second Edition. Cloth. Price, $4 net. Pp. 345, with 435 illustrations. New York: William Wood & Co., 1912.

This is a well-written and well-illustrated discourse on operative surgery. Thirty pages are devoted to the ligation of vessels, thirty to [illegible] various join[illegible] thirty-six to amputatio[illegible] the book being giv[illegible] and neck, br[illegible] operations. [illegible] and the illus[illegible]

A Practical Text-Book of the Diseases of Women. By Arthur H. N. Lewers, M.D., F.R.C.P., Senior Obstetric Physician to the London Hospital. Seventh Edition. Cloth. Price, $4 net. Pp. 540, with 258 illustrations. New York: Paul B. Hoeber. 1912.

In preparing a new edition of this work, well known to the specialist in America, the author adheres to his original purpose of offering to the practitioner and student a text essentially practical. Hence the clinical and practical characters of the book have been retained, as having proved in previous editions useful toward securing the object aimed at. Thus the various divisions of the subject have been arranged in a natural order, from a clinical point of view, first dealing with the history, then with the physical examination, then with diseases of the external genitalia, diseases of the vagina, of the uterus, etc. Numerous cases are detailed to illustrate points when emphasis is desired.

Many of the chapters have been rewritten in part, much new matter being added, and the entire work has undergone revision. A full description of Wertheim's radical hysterectomy for carcinoma of the uterus has been added to the chapter on cancer. The section devoted to fibroid tumors has been largely amplified. The illustrations are profuse and serve the purpose of illuminating the text. The plates in black and white and those in three colors are particularly helpful, but the microphotographs, though abundant, disclose the fault usually found in such pictures, a loss of definition in the reproduction. Dudley's operation for intraperitoneal shortening of the round ligaments, and a modified Tait "flap-splitting" procedure for perineal laceration are described. While some points would be open to adverse criticism from our American point of view, on the whole the book fulfils the author's design, that of a practical text.

Surgery of the Rectum for Practitioners. By Sir Frederick Wallis, M.B., B.C., F.R.C.S., Surgeon to Charing Cross Hospital, London. Cloth. Price, $5.50. Pp. 355, with 129 illustrations. New York: Oxford University Press, 1912.

This is an enlarged edition of the work published by the same author in 1906. The old matter has been changed, and several new chapters have been added. Among these may be mentioned two chapters on the affections of the colon and sigmoid, in which no mention is made of diverticulitis of the colon or of the sigmoid, a condition which is by no means rare. Under treatment of prolapse of the rectum the bad effects of the injection of paraffin are shown and two cases reported, one of which resulted fatally two years after the first injection. The use of paraffin in this way is properly condemned. More useful and practical points are mentioned in connection with the minor affections of the anus and lower rectum than in the more serious troubles higher up, which are discussed less satisfactorily by the author.

Studien über Darmtragheit (Stuhlverstopfung) ihre Folgen und ihre Behandlung. Von Dr. Franz X. Mayr. Paper. Pp. 276. Price, 6 marks. Berlin: S. Karger, 1912.

Probably no section of the diseases of the digestive tract is of more importance than the disorders that go under the common designation of constipation, and there seems to be no field of medicine in which superficial views and practices are more common. The author has endeavored to base his advice on the considerations of etiology and a thorough study of the functions involved. The work gives many valuable hints and will repay careful reading.

Gynäkologisches Vademekum für Studierende und Aerzte. Von Prof. D. A. Dührssen. Tenth Edition. Cloth. Price, 6.80 marks. Pp. 306, with 149 illustrations. Berlin: S. Karger, 1913.

This small volume serves admirably the purpose for which it is so frankly published, that of a pocket text-book for the student who wants his information in a nutshell. While thus boiled down to a statement of facts, it is surprising how much argument is introduced. An example of this is seen in the few pages devoted to the pessary in the treatment of retroflexio uteri. The volume is a text on gynecology in miniature, and as a result is neither complete nor discursive.

Food in Health and Disease. By Nathan S. Davis, Jr., A.M., M.D., Professor of the Principles and Practice of Medicine in Northwestern University Medical School. Second Edition. Cloth. Price, $3.50 net. Pp. 449. Philadelphia: P. Blakiston's Son & Co., 1912.

This book is a well-balanced and sensible discussion of the value of food in health and disease. While not unduly brief, it is as concise as is compatible with thoroughness. It is divided into two main parts; in Part I, general principles of diet and diet in health (thirteen chapters) are considered, and in Part II, diet in disease (twelve chapters).

The views expressed are sound and based on the most modern conceptions of chemistry and physiology. In Part I, for instance, the author's familiarity with the most recent scientific investigations is shown by his use of the thorough and revolutionary work of Mattill and Hawk on water-drinking and metabolism, and by his discussion of beef extracts and bouillons, the real value of which, as he points out, may be lost by improper manufacture. His sound, common-sense judgment is shown in his treatment of such subjects as mineral waters, alcohol and milk preparations. The benefits ascribed to mineral waters the author regards as due chiefly to change of diet, outdoor exercise and freedom from home cares. Although he regards alcohol as of value in some cases, he points out that usually its benefits are outweighed by the damage it does to the system. The author's unbiased discussion of milk modified as kefir or koumiss is refreshing after the exaggerated and glowing claims of the manufacturers of various proprietary lactic acid preparations.

Part II, dealing with diet in disease, shows the same sane and scientific attitude as the first. The author calls attention to the causes of diseases, especially in relation to diet and metabolism, and gives the proper diet for each disease discussed. The text is amply supplemented by tables and recent statistics on dietetics and metabolism.

A Manual of Immunity. For Students and Practitioners. By Elizabeth T. Fraser, M.D. Cloth. Price, 5 shillings net. Pp. 199. Glasgow: James MacLehose & Sons, 1912.

This little work gives a plain account of the facts and theories of immunity that will be welcome to the reader who comes to its perusal without any previous knowledge of the subject. A brief historical review is given and then the parts played by the body fluids, by the cells, and by the invading microorganism in the production of immunity are described and discussed. The rest of the book is divided into chapters dealing with the therapeutic uses and diagnostic applications of immunity reactions. Other chapters deal with anaphylaxis, the side-chain theory and chemotherapy, the latter including Wassermann's experiments in the destruction of malignant tumors. The explanations given are clear and the directions are practical. We have no doubt that this little manual will prove useful to many who have had difficulty in grasping what must be recognized as a somewhat difficult subject.

Practical Physiologic Chemistry. Designed for Use in Schools of Medicine and of Science. By Philip B. Hawk, M.S., Ph.D., Professor of Physiologic Chemistry and Toxicology in the Jefferson Medical College of Philadelphia. Fourth Edition. Cloth. Price, $2.50 net. Pp. 475, with 139 illustrations. Philadelphia: P. Blakiston's Son & Co., 1913.

The fourth edition of this work follows the same lines as the previous editions, and the arrangement is practically the same. It begins with a consideration of the action of enzymes, which is somewhat unusual. Throughout the work experimental laboratory exercises are interspersed. The number of methods given will be somewhat confusing to the practitioner who undertakes to use this book as a guide without advice from a practical teacher. In other respects the book is excellent.

A Laboratory Hand-Book for Dietetics. By Mary Swartz Rose, Ph.D., Assistant Professor, Department of Nutrition, Teachers College, Columbia University. Cloth. Price, $1.10 net. Pp. 127. New York: The Macmillan Co., 1912.

This little work presents in clear form materials for a laboratory course in dietitics. The general principles for the calculation of the calorie value of foods and the food requirements of various classes of people are laid down. The figures given for the energy requirement of children will be useful for reference, as they are not usually included in such works. The data by which the student is expected to solve dietetic problems are furnished in a large number of tables. The method of solving these problems is given, together with some examples for practice. The book seems well suited for its purpose as a laboratory guide, and might easily be made useful to the practitioner in solving such problems as he may meet in practice.

OUTLINES OF EARLY DEVELOPMENT FOR OBSTETRIC STUDENTS. By R. W. Johnstone, M.A., M.D., F.R.C.S.E., Assistant to the Professor of Midwifery, University of Edinburgh. With a Preface by Sir J. Halliday Croom, Professor of Midwifery, University of Edinburgh. Cloth. Price, 1 shilling, 6 pence. Pp. 23, with illustrations. Edinburgh: John Currie, 1911.

This is a thorough and comprehensive sketch of the life-history of the human ovum. Fertilization, formation of the germinal layers, syncytium and embedding of the ovum, formation of the decidua and development of the placenta are clearly explained in accord with the most modern conceptions, and illustrated by excellent diagrams. The whole is a satisfactory exposition of the subject for medical students.

Medicolegal

No Liability for Error in Judgment—Failure to Discover Infantile Paralysis

(Brydges vs. Cunningham (Wash.), 124 Pac. R. 131)

The Supreme Court of Washington affirms a judgment rendered for the defendant over a verdict for the plaintiff. The latter was about 7 years of age when she fell from a porch one Thursday evening and complained of pain in her hip and leg, which her mother sought to alleviate by applying liniment, which seemed to relieve the pain. Friday and Saturday the child played around as usual, making no complaint, and was apparently fully recovered from the fall. Sunday morning she was still apparently well and went to Sunday school, from which she returned complaining of pain. When asked to locate the pain, she replied: "I have hurts all around me." She was put to bed, and her mother treated her all day with hot cloths wrung out in turpentine. In the evening the defendant was called in, and at first diagnosed the case as appendicitis and advised an operation. This was objected to by the family, and Monday afternoon another physician was called in consultation, when it was decided that no operation was necessary, but that the trouble was typhoid fever, for which the child was treated for about twenty-one days. During the defendant's visits, when his attention was called to the cold and swollen condition of the hip and leg, he gave it as his opinion that the condition would pass away with the fever, and that Nature should be left to take her course. The plaintiff's contention was that she was suffering from an injury to the sciatic nerve, resulting in permanent paralysis of her right hip and leg, and that the defendant improperly and negligently failed to apply the proper treatment, while he contended that the child was, and from the beginning had been, afflicted with infantile paralysis, for which there is no known cure.

It needs no argument, the court says, to show that there could be no recovery of damages against the defendant, unless, as a medical man of ordinary skill, he should have correctly diagnosed the case as an injury to the sciatic nerve, and was negligent in his treatment. If, then, there was no evidence that there was such an injury, when all the facts on which the diagnosis must be predicated were included, but rather the evidence, without exception, excluded such an injury, there was nothing to submit to the jury. If the defendant could be held liable because he did not make a proper diagnosis of the case on his now theory that the child was suffering from infantile paralysis, then the court was in error. But in an action for malpractice a physician cannot be held for an error in judgment as to the disease his patient is suffering from, since all that any physician can give to any case is his best judgment; and, if he exercise that judgment as a man of ordinary skill would exercise it, there can be no recovery of damages. The testimony of the physicians called by the plaintiff was to the effect that the symptoms present in this case from Thursday night to Sunday morning might be diagnosed by men of ordinary skill in the medical profession as typhoid fever, multiple neuritis or infantile paralysis, and that the treatment given by the defendant in no way contributed to the present condition of the child. There was, therefore, no evidence in the case that the treatment by the defendant was negligent or unskilful. The most that could be said was that he did not discover the infantile paralysis. From the evidence he could not have cured it if he had. It could not, therefore, be said that his failure to discover its presence, or his subsequent treatment, was responsible for the child's present condition.

Construction and Constitutionality of Law—Holding Out as Physician or Surgeon an Offense Without Actual Practice

(State vs. Lindsay (Vt.), 84 Atl. R. 612)

The Supreme Court of Vermont affirms a conviction of the defendant of representing himself to be a physician. The court says that prior to the passage of No. 133, Acts of 1904, it was provided by statute that a person who "practices medicine, surgery or midwifery, . . . and is not duly authorized by a certificate issued and recorded as provided," should, on convicton, pay a specified fine. But by Section 10 of the act referred to this provision was repealed, and it was therein provided that a person who, "not being licensed as aforesaid, shall advertise or hold himself out to the public as a physician or surgeon in this state," should be fined as therein specified; and this is the provision of the statute as it now stands.

It is thus seen that the offense expressly covered by the statute is complete when an unlicensed person advertises or holds himself out to the public as a physician or surgeon. Actual practice is not required to bring one within the penalized class. No attempt is made in the statute to further define or explain the offense. What one must do to amount to advertising or holding himself out as a physician or surgeon is not specified. But, whatever the other essential elements of the offense may be, it is clear that, without something which amounts to a representation on the part of the person charged that he is in fact a physician or surgeon, no offense is committed. So practicing medicine without a license is now criminal only when it involves a representation that the person acting is a physician or surgeon.

The defendant relied on Section 5 of No. 151, Acts of 1908, which amends P. S. 5371, insisting that unlawful discrimination is therein provided, which vitiates the whole statute, and expressly admitted in his brief that without this amendment no constitutional objection to the statute could have been raised. But the fault thus found by the defendant exists, if it exists at all, in the section which defines a physician or practitioner of medicine within the meaning of the chapter. It obviously relates to actual practice, and leaves untouched the offense created by P. S. 5370. It describes those who are required to obtain a license, but only those incuded in Section 5370 are made criminals. If the statute had remained as it was before the amendment of 1904, the constitutional questions raised by the defendant would merit consideration; but, in the existing circumstances, they are of no present consequence. The defendant did not question the power of the legislature to make criminal the mere act of an unlicensed person in representing himself to be a physician, and so, of course, the court does not consider it.

The court also holds that the defendant could be required to answer the information in this case notwithstanding the pendency of a previous complaint against him. The rule in this regard is different in criminal cases from that in civil cases and where a part of the penalty goes to the complainant. However, it is sometimes said that the proceedings must be pending in the same court, or the one will abate the other. But this is to engraft on [illegible] feature unknown to the common [illegible] ly in the mere pe [illegible]

Society Proceedings

COMING MEETINGS

Alabama State Medical Association, Mobile, April 15-18.
American Urological Association, Boston, April 15-17.
California State Medical Society, Oakland, April 15-17.
Georgia State Medical Association, Savannah, April 16-18.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Missouri Valley Medical Society, Kansas City, March 20-21.
New York State Medical Society, Rochester, April 29-May 1.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Jan. 27, 1913

The President, Dr. H. R. M. Landis, in the Chair

Certain Types of Arthritis Deformans and Their Management

Dr. Robert B. Osgood: The views I express will be from an orthopedic point of view, and I shall leave unsettled the question whether we are dealing with one or more than one distinct disease. I shall adopt a temporary nomenclature which I realize is imperfect, but which defines what seem to me distinct clinical types. The four types to be discussed are infectious, toxemic, atrophic and hypertrophic. I find it difficult to connect acute articular rheumatism in any way with the chronic manifestations of arthritis deformans, and I believe it has brought about no causal relation. I have been equally unsuccessful in associating true gout with the types to be discussed. By chronic infectious polyarthritis I mean an arthritis usually of more or less sudden onset. If unaffected by treatment, the disease is commonly progressive. We may include in this type those cases of gonorrheal arthritis in which the cocci may be recovered from the joints and those cases in which other bacteria have been found either in the joint effusions or in the tissues, especially the villi removed at operation. In the second type, chronic toxemic polyarthritis, we may include the cases of chronic polyarthritis following influenza, associated with chronic infections of the nasopharynx and sinuses, ulcerative processes in the intestines, the so-called auto-intoxications often in association with enteroptosis, and that form of arthritis deformans known as Still's disease. Careful search has failed to find the actual presence of bacteria in many of these joint conditions in which the early picture is in all respects consistent with the existence of an infection.

The third or chronic atrophic polyarthritis is clinically to my mind almost, if not quite, an entity. The clinical histories of this type less strongly suggest the direct result of an infection or its toxic products. The picture is like some trophic disturbance of central nervous origin. I believe these are the cases that have so strongly suggested the neural theory of the etiology of the so-called rheumatoid arthritis. In the chronic hypertrophic polyarthritis type, I am inclined to the belief that we are dealing with an arthritis deformans so essentially different from the other types that it may be considered from the point of view of symptomatology and treatment as an entity.

If the first two of these four divisions are grouped together, three types of arthritis deformans seem to be clinically distinguishable, the infective, the atrophic and the hypertrophic. Pathologic examination and the skiagraphic findings seem to suggest a certain purity in these types. In regard to etiology, I have arbitrarily made the first division on an infective basis. The second type I also believe strongly to be the result of either some undiscovered direct invasion of the joint tissue by bacteria or more probably to result from the development of one or more than one toxic substance by various forms of bacterial growth in the nasopharynx, the intestine or some other focus. As to whether in the third or trophic type, the toxic type is exerted, primarily, on the central nervous system and, secondarily, on the joint tissues, I have no certain proof. The evidence seems to point to the correctness of this theory of Painter, Jones and others. The fourth type, hypertrophic arthritis, seems to be much more likely the result of faulty metabolism than of an infection or an infectious toxemia. In the first three types no effort should be spared to obtain the most perfect hygienic conditions of living with as much life in the open air as possible.

The first step in the management of the infectious and toxemic joints should be a most careful search for a focus of infection. I have come to believe strongly that the constantly found enteroptoses may be one of the factors in faulty alimentation. Much may be expected from conservative surgery. Our attitude toward vaccine therapy should be one of receptive skepticism as far as the cure of arthritis deformans is concerned. The search for an infectious focus in the atrophic type has been attended with less success than in the two preceding. We must conserve the strength and improve the nutrition of these patients by every means at our disposal, especially by attention to the habitual splanchnoptosis. In the hypertrophic type the search for a focus of infection has not been rewarded with success. As to the use of drugs in arthritis deformans, I am convinced that empiricism rather than scientific evidence of their value has encouraged their use. Until we find the cause of arthritis deformans we must seek out all possible sources of infection. We must attempt to make the processes of alimentation and all other physiologic processes as normal as may be. But whether successful or not, we must never lose sight of the fact that this form of chronic disease is one which calls for the greatest friendliness, encouragement and effort on the part of the physician.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Twenty-Third Annual Meeting, held in Chicago, Feb. 26, 1913

The President, Dr. Egbert Le Fevre, New York City, in the Chair

Officers Elected

The following officers were elected: president, E. P. Lyon, Ph.D., St. Louis University; vice-president, F. F. Wesbrook, M.D., University of Minnesota; secretary-treasurer, Fred C. Zapffe, M.D., 3431 Lexington Street, Chicago; members executive council, C. M. Jackson, M.D., University of Missouri, and F. C. Waite, Ph.D., Western Reserve University.

Dr. William J. Means was appointed delegate to the Conference on Medical Education of the American Medical Association, and Dr. Fred C. Zapffe was appointed delegate to the Federation of State Medical Boards.

The committees on medical education and pedagogics were combined, the membership consisting of Drs. Isador Dyer, Tulane University, chairman; W. P. Harlow, University of Colorado; J. R. Guthrie, University of Iowa; W. C. Borden, George Washington University, and K. C. Babcock, U. S. Bureau of Education, Washington, D. C.

Committee on Equipment: Drs. R. Peterson, chairman, University of Michigan; P. G. Woolley, University of Cincinnati, and H. von W. Schulte, Columbia University.

Committee on Research: Drs. Eugene L. Opie, chairman, Washington University; William L. Pepper, University of Pennsylvania, and J. S. Ferguson, Cornell University.

Report of Secretary

The secretary reported that fifty-one colleges were in membership, but that this number will be reduced to forty-seven by one withdrawal and three colleges becoming extinct by merger. Twenty-one colleges are in Class A plus of the A. M. A. classification; twenty-four in Class A, and six in Class B. Of the latter, one resigned and one was later dropped from membership. The others were ordered inspected.

Report of Executive Council

On the recommendations of the executive council, the association acted favorably on the applications for membership of the medical departments of the University of Texas, Galveston; College of Physicians and Surgeons, Columbia University, New York City; University of Pittsburgh; University of Utah, Salt Lake City (two years only); University of Alabama, Mobile; University of Georgia, Augusta; University of the Philippines, Manila; Hahnemann Medical College and Hospital, Philadelphia; Medico-Chirurgical College, Philadelphia; and Rush Medical College, Chicago.

The resignation of the medical department of Washburne College, Topeka, Kan., was accepted, to become effective June 30, 1913. The college will discontinue the department at the close of the present session.

The University Medical College of Kansas City, Mo., was dropped from membership for not complying with the rules and regulations of the Association.

Recommended, that on and after Jan. 1, 1914, the association will raise its present entrance requirement to one year of college work in physics, chemistry, biology and one modern language, of college grade, in consonance with the action taken by the House of Delegates of the A. M. A. at its meeting in Atlantic City, June, 1912. Carried.

Recommended, that students from Class B schools of the A. M. A. classification be given not more than two years of advanced standing and that students from Class C schools be given not more than one year of advanced standing, and then only on examination.

Report of Committee on Equipment

This committee presented the following proposed minimum standard for clinical equipment:

A. General: 1. General hospital (owned or controlled by school for clinical teaching) must be provided with minimum daily average of 100 available bed-patients, representing the various phases of medicine and surgery, and with adequate rooms and equipment for clinical teaching. For classes of fifty or more, the minimum is two patients daily per senior student.

2. Dispensary or outpatient department must be provided, managed by school, with minimum daily average of forty patient-visits, and for the school year not less than 120 patients per junior and senior student. The dispensary must have adequate rooms, equipment and patients for clinical instruction in medicine and surgery, including their principal subdivisions.

3. The organization and equipment must provide for thorough individual clinical instruction, both in hospital wards and dispensary, with at least one competent instructor to every six students. Complete clinical records must be kept, in both hospital and dispensary. Above all, equipment and facilities must be intelligently used in the training of students.

B. Special: 1. In the clinical laboratory adequate rooms, equipment and facilities must be provided especially for microscopic, chemical and bacteriologic examinations of clinical materials. These facilities must be accessible to every student during at least the entire senior year.

2. Adequate rooms and equipment must be provided for Roentgen-ray work and for electrotherapeutics.

3. In surgery, equipment and materials must be provided for thorough courses in operative surgery on the cadaver and on animals. In addition, facilities must be provided to allow each student to assist in at least six major operations and to administer a general anesthetic at least six times under competent supervision.

4. In addition to obstetric charts, models, specimens and equipment for manikin drills, etc., clinical facilities must be provided which will allow each senior student, under proper supervision, to witness at least twelve confinement cases, at least three of which he shall have entire charge of, also under proper supervision, before, during and after labor.

5. Equipment and facilities must be provided so that each student shall observe and take part in at least twelve complete autopsies.

Library: The college should have a working medical library. It should include the more modern text and reference books, the *Index Medicus* and thirty or more leading medical periodicals representing all the various departments. The library should be catalogued and accessible to students at all times.

Report of Committee on Medical Education

With reference to the concentration plan of teaching, which the committee investigated, a careful research was made and the result was that the committee concluded that this method of teaching is still on trial. In the schools in which it has been given the longest trial and the best opportunity, it seems to have worked well and to the satisfaction of both student and teacher. In the majority of schools, however, it is still a debatable subject. It certainly is inapplicable to the clinical years, except in those schools in which a fifth clinical year is added to the course. As to the fifth or hospital year, it was apparent that such a year could be adopted easily by every medical school in the country, but in order to place it on a sound basis it is necessary that the hospitals in which such teaching is to be done be investigated thoroughly and standardized or classified.

As to the entrance requirements, the committee suggested to amend Article III, Section 1, as follows:

(b) A diploma and transcript of record from a fully accredited high school, normal school or academy requiring for admission evidence of the completion of a standard course in primary and intermediate grades, and for graduation, the completion of a standard four-year high-school course, embracing two years (2 units) of mathematics, two years (2 units) of English, two years (2 units) of one foreign language, one year (1 unit) of American history and civics, and seven years (7 units) of further credit in language, literature, history or science, making the total of units at least fourteen; and in addition, one year each of physics, chemistry and biology of college grade of each not less than six semester hours.

(c) An examination in the following branches totaling 14 units:

(A) Required, 7 units.

	Units.
Mathematics (minimum 2 years, maximum 3 years), algebra and plane geometry	2
English (minimum 2 years, maximum 4 years)	2
One foreign language (minimum 2 years, maximum 4 years)	2
History (U. S.) and civics	1
Total number of required units	7

(B) Elective, 7 units.
To be selected from the following:

	Units.
English language and literature (in addition to the required work)	1 to 2
Foreign languages, additional, Latin, German, Italian, French, Spanish or Greek (not less than 1 year in any one)	1 to 4
Advanced mathematics, advanced algebra, solid geometry and trigonometry (½ year each)	1
Natural science, chemistry 1 year, physics 1 year, and biology, botany, physiology and zoology (½ to 1 year each)	½ to 2
Earth science, physical geography, geology and agriculture (½ year to 1 year each)	½ to
Astronomy (½ year)	½
Drawing (½ to 1 year)	½ to 1
History, ancient, medieval and modern, and English (1 year each)	1 to 3
Economics (½ year)	½
Manual training (1 year)	1
Book-keeping (½ to 1 year)	½ to 1

And in addition one year each of physics, chemistry and biology of college grade, of each not less than 6 semester hours.

One unit in any subject is the equivalent of work in that subject for four or five periods per week for a year of at least thirty-six weeks, periods to be not less than forty-five minutes in length. One unit is equivalent to 2 semester credits or 2 points.

The evaluation of the additional requirement beyond the high school work was referred to a special committee to confer with a similar committee of the Council on Medical Education of the American Medical Association. This special committee consists of Drs. J. R. Guthrie, University of Iowa; R. D. Coale, University of Maryland and Isador Dyer, Tulane University. Mr. Kendric C. Babcock, U. S. Bureau of Education, is an advisory member of the committee.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Orthopedic Surgery, Philadelphia

February, X, No. 3, pp. 309-497

1 Anatomic Explanation of Many Cases of Weak or Painful Backs and Leg Paralyses. J. E. Goldthwait, Boston.
2 *Mechanical Treatment of Hip Disease. G. B. Packard, Denver.
3 *Results in Hip Tuberculosis After Mechanical Treatment (Without Traction), and Hygiene. H. L. Taylor, New York.
4 Fixation in Treatment of Hip Disease. E. H. Bradford, Boston.
5 Vertebral Osteoarthropathy. (Charcot's Disease of Spine.) S. F. Jones, Denver.
6 *Spontaneous Gangrene and Allied Conditions in Orthopedic Surgery. W. G. Stern, Cleveland.
7 Congenital Lateral Curvature of Spine. K. Kaneko, Tokio.
8 Two Cases of Congenital Absence of Fibula. P. Le Breton, Buffalo
9 *Congenital Anterior Subluxation of Knee. L. Mayer, New York
10 Open Reduction of Congenital Hip Dislocation by Anterior Incision K. Ludloff, Breslau.

2, 3 and 6. Abstracted in THE JOURNAL, Aug. 3, 1912, pp. 391 and 392.

9. Congenital Anterior Subluxation of Knee.—Analysis by Mayer of the twenty-one published specimens of congenital hyperextension shows the patholog [illegible] ist in a subluxation of the ti [illegible] l at [illegible] r. As a consequence of this position the extensors of the knee and the anterior portion of the capsule are shortened, the flexors are frequently dislocated forward so as to be converted into extensors, the gastrocnemius may be displaced downward, the patella usually displaced upward, the anterior portion of the femoral condyles is usually flattened and forms an articular surface which running from below upward and forward, encroaches on the facies patellaris or entirely replaces it, and in some cases there is anteversion of the femoral epiphysis. The deformity is due to an extension of the legs *in utero*, which, owing to normal intrauterine pressure, is converted into hyperextension. The ultimate cause of the extended position is unknown.

Treatment should be begun at birth and consists at first in manipulation, with narcosis and apparatus if necessary, to reduce the subluxation. In case repeated attempts to reduce are unsuccessful, open operation is indicated. The type of operation depends first on the obstacles to reduction—usually the contraction of the quadriceps and the anterior capsule; second, the factors, ligamentous, bony or muscular, tending to cause a recurrence of the subluxation. Special care must be taken to restore the normal mechanical relationships of the gastrocnemius, since it exercises an important function, hitherto not generally recognized, in preventing hyperextension. The poor therapeutic record in patients over 2½ months old (only 33 per cent. cures) indicates the necessity for the most careful study of the pathologic lesions present, so that, if bloodless reduction fails and operation be attempted, the normal relations, muscular and ligamentous as well as bony, can be restored.

Boston Medical and Surgical Journal

February 20, CLXVIII, No. 8, pp. 261-296

11 Medical Education and Harvard Medical School E. H. Bradford, Boston.
12 Problem of Graduate Medical Instruction. H. D. Arnold, Boston.
13 Transfusion in Treatment of Ruptured Tubal Pregnancy. R. M. Green, Boston.
14 *Mental Symptoms Associated With Renal Insufficiency. M. L. Neff, Brooklyn.
15 Ophthalmia Neonatorum: Administrative Standards. H. C. Greene, Boston.

February 27, CLXVIII, No. 9, pp. 297-332

16 An Argument for Large State Insane Hospital. T. Clouston, Edinburgh.
17 *Early Recognition of Tumors of Bladder. A. L. Chute, Boston.
18 Recent Cases of Bladder Tumors at Massachusetts General Hospital with Special Reference to Operative Technic. R. F. O'Neil, Boston.
19 Value of High Frequency Cauterization in Treatment of Vesical Papillomata. H. Binney, Boston.
20 Symptomatology of Kidney Tumors: Study of Seventy-Four Cases from Massachusetts General Hospital. J. D. Barney, Boston.

14 **Renal Insufficiency.**—Of 139 cases investigated by Neff showing excitement, elation or irritability 117 showed degeneration of the kidney, and in 99 of these degeneration of the liver was also present. Of the remaining 22 cases, twelve showed degenerative changes in the liver, and in six the kidney was tubercular.

A second series of 100 cases, in which depression was the most marked symptom, showed 43 cases of chronic interstitial nephritis and 33 of chronic parenchymatous nephritis. Degenerative conditions of the kidney of a chronic type were present in eight other cases, and four showed acute nephritis. Of the remaining twelve cases four had tuberculous kidney, and seven showed degenerative changes in the liver. Of eight cases of paranoia six showed degeneration of the kidneys. Of eleven cases of manic-depressive insanity ten showed degeneration of the kidney. For the four series taken together, the percentage of degenerative conditions of the kidney was 90; while of the total 258 cases there were eight only which showed no degeneration of either kidney or liver.

17. **Tumors of Bladder.**—It is Barney's belief that to get better results in the treatment of bladder tumors, we must see these cases earlier; that in order to see them earlier we must impress on the medical public two points: First, that any hematuria may be a sign of very serious bladder disease; each should be looked on with suspicion until its source and cause are clearly demonstrated. Second, we should combat the idea of the benign nature of bladder tumors. A very large proportion are malignant from the start in that they infiltrate the bladder wall and lead to metastases. Some that are apparently benign in the beginning tend later to infiltrate. Some that do not show any tendency to infiltrate tend to multiply and destroy life by hemorrhage, sepsis and interference with the renal function. Until our knowledge of these tumors is greater we are taking too great a risk in assuming that any given bladder tumor is clinically benign, though we have reason to believe that a few probably are.

In Barney's opinion, the only proper treatment for tumors of the bladder is their early and complete removal. In most instances he believes this should be by excision.

Bulletin of Johns Hopkins Hospital, Baltimore

March, XXIV, No. 265, pp. 69-102

21 *Historic Evolution of Variolation. A. C. Klebs, Lausanne, Switzerland.
22 Trypanosomiasis. G. H. F. Nuttall, Baltimore.
23 Children's Hospital, the Medical School and the Public. L. E. Holt, New York.

21. **Historic Evolution of Variolation.**—Variolation, Klebs says, called forth a unique and extensive trial of a specific preventive method, the logical consequence of which was vaccination. It is difficult to ascertain any one locality where variolation was first practiced. From its wide distribution it would seem that it arose spontaneously in various places where the need for it occurred. The earliest alleged reference to variolation in the chronicles of the sixth century by Marius, Bishop of Avenches, Klebs has been unable to verify. He found only the well known report of a deadly epidemic (570 and 571 A. D.) in Italy and Gaul of a disease which for the first time is called "variola."

The first authentic reports of this practice are found in the Ephemerides of the Academia Cesarea Leopoldino-Carolina published at Leipzig between 1670 and 1705. Here Dr. Vollgnad of Breslau in 1671 and Dr. Schultz of Thorn in 1677 clearly report instances of the custom of "buying the small-pox." There is, however, no reference made to the actual inoculation with the pock scabs purchased in the plague house, but that such was done is very likely, since Schultz speaks of the rather serious illness which his own brother acquired in this manner. Further reports of the ancient practice all date from the time of the medical introduction of variolation to Europe and America. The earliest traces of variolation are found in Asia and in Africa. In Africa the practice continues to this day among certain tribes, chiefly negroes, in the eastern, central and western regions. In India a similar method seems to have been carried out on a systematic plan by special delegates of the Brahmin caste in conjunction with a religious cult of the small-pox deity.

In 1717, the wife of the British Ambassador, to Constantinople caused the inoculation of her 3-year-old son and influenced that of the three children of the Secretary to the French Embassy. Other medical men in England at this time had some personal knowledge of the method which they had seen practiced in Constantinople. Actual inoculations very probably were practiced in Paris at about this time by a Greek physician Garazza. Eller successfully inoculated a child in or before 1720. From the time of its introduction to the Occident in 1713 to the advent of vaccination in 1708 and its general acceptance in 1840, variolation does not follow a course of steady progress. It enjoys a few years of the success of novelty (until 1727), followed by twenty years (1746) of indifference, after which it slowly gives rise to a remarkable period of serious scientific investigation.

The technic meanwhile had seen considerable deviations from its primitive Greek prototype. In Constantinople, Maitland had already replaced the dirty needle of the woman operator by the lancet. Nettleton, who probably had the largest experience in these early years, thought it important to make rather deep incisions and to keep them open so that the wound would drain freely and allow the morbid humors to escape. The arms or thighs were the favorite regions chosen. The virus was taken directly from a small-pox patient and transferred, or it was collected on threads and dried for later use. It seems that the inoculations were not often performed by the physicians themselves; they usually had a surgeon do it and watched the case before and after. Thus a type of inoculation specialist was evolved and all sorts of people took it up as a lucrative profession. Klebs continues to trace the course of this procedure through to the present day, giving many valuable data collected from over 600 bibliographic references. Concluding he says:

> Plentiful suggestions are to be found everywhere which lead one to infer that variolation, without the advent of vaccination, might have furnished the world with an equally safe and perhaps more efficient method of preventive immunization. We have every reason, however, to be satisfied with the results of vaccination. Thanks to it, small-pox has been practically stricken off the list of the great medical problems. None the less it is time that the epoch which preceded vaccination should receive its proper place in the history of medicine and that the names of Kirkpatrick, Gatti, Watson, Mudge and Dimsdale should be recalled with that of Edward Jenner.

Georgia Medical Association Journal, Augusta

February, II, No. 10, pp. 313-344

24 Importance of Ophthalmoscope in Pregnancy. D. Roy, Atlanta.
25 Currettage of Pharynx in Adults. M. M. Stapler, Macon.
26 Extirpation of Lacrimyal Sac in Chronic Dacryocystitis. F. P. Calhoun, Atlanta.
27 Follicular Conjunctivitis: Its Relation to Adenoids. T. E. Oertel, Augusta.
28 Nose and Throat Reflexes Causing Cough. R. R. Daly, Atlanta.
29 Importance of Preserving Integrity of Contiguous Structures When Operating on Tonsils. C. M. Harris, Johnstown, Pa.
30 Eight Years of Chloroform Anesthesia in Nose and Throat Surgery. C. P. Grayson, Philadelphia.

Journal of Nervous and Mental Disease, Lancaster, Pa.

February, XL, No. 2, pp. 73-142

31 *Examination of Ductless Glands in Eight Cases of Dementia Præcox. F. X. Dercum and A. G. Ellis, Philadelphia.
32 *Segmental Distribution of Spinal Root-Nucleus of Trigeminal Nerve. A. H. Woods, Philadelphia.
33 Theoretic Considerations of Function of Node of Ranvier. W. Timme, New York.
34 A New Esthesiometer. S. Auerbach, Frankfort-on-Main, Germany.

31. **Ductless Glands in Dementia Praecox.**—A large number of cases were studied clinically by Dercum in the department of insane of the Philadelphia General Hospital. Of these eight subsequently came to autopsy. All eight dementia praecox patients had tuberculosis, seven of them advanced ulceration of the lungs, one extensive tuberculous peritonitis and multiple fistulas of the hip and abdominal wall. One of the most notable points in the ductless gland findings is the underweight of the thyroid in seven of the eight cases. In addition three of them showed abnormalities in the colloid, quantitative or qualitative, and four decided regressive changes in the acinar epithelial cells. The parathyroid findings are not of significance. This applies also to the carotid and thymus. The most constant adrenal picture is the small amount of fat in the cells of the cortex, especially those of the fasciculata. If this is to be regarded as indicative of functional change, it indicates lessened activity. In the hypophyses there is less colloid than is usually found in a series of these glands, but so little is known regarding the morphologic attributes of function in this body that this, as well as the number of eosinophil cells, can hardly be regarded as pathologic. The condition of other organs, as the presence of chronic nephritis in most of the cases, can probably be safely attributed to the tuberculosis.

The authors point out that it is rather a remarkable fact that the almost universal cause of death in dementia praecox is tuberculosis and if the feebleness of resistance to the tubercle bacillus is due to a fault of the adrenal system, there is reason to infer that this fault preexisted and that it is one of the factors in the makeup—the morphology—of dementia praecox. The conclusion is, of course, not justified that an abnormality of the adrenal system is the cause of the mental symptoms of dementia praecox, but our findings are at least in keeping with the inference that anomalies of the ductless glands exist in dementia praecox. The relation between such anomalies and the mental symptoms must remain an open question, but that the facts are most suggestive must be admitted, and for this reason the authors present their material in the form of a preliminary communication.

32. **Segmental Distribution of Trigeminal Nerve.**—It is believed by Woods as probable that touch and pressure sensations are conducted to the Gasserian ganglion, pass to new axones, enter the sensory root and go directly into the chief trigeminal nucleus. Thence new axones conduct them to higher levels, across the raphe and into the lemniscus. And that pain and temperature sensation pass from the ganglion, also along secondary axones, go through the sensory root down within the "spinal root" to the nucleus of that root. Thence new axones pass cephalad within the formatio reticularis, decussate and finally reach the lemniscus. Two cases are cited.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

January, IV, No. 3, pp. 167-250

35 *Anaphylactic Reaction of Plain Muscle in Guinea-Pig. H. H. Dale, Herne Hill, London.
36 *Congenital Tolerance of Rat to Strophanthus. J. A. Gunn, London.
37 Mode of Union Between Amanita-Hemolysin and Its Antihemolysin. W. W. Ford and E. M. Rockwood, Baltimore.
38 Amanita-Toxin. W. W. Ford and E. Bronson, Baltimore.
39 Action of Histamin on Surviving Arteries. H. G. Barbour, Baltimore.

35. **Anaphylactic Reaction of Plain Muscle.**—Dale summarizes his findings as follows: Plain muscle from an anaphylactic guinea-pig, freed from all traces of blood and serum, has a very high degree of sensitiveness to the specific sensitizing protein. The plain muscle of the virgin uterus is especially suited to the demonstration of the condition, and exhibits a definite rise of tonus in response to extreme dilutions of the antigen. The effect is practically immediate, i. e., the delay is not obviously more than can be attributed to the method of application of the antigen. The response is not a mere exaggeration of the reaction which normal plain muscle gives to fresh serums in general.

Preparations of purified protein can be obtained (e. g., serum globulin precipitated by Gibson's method, or egg-albumin crystallized by Hopkin's method), which have no effect on the normal plain muscle, but are as toxic for the anaphylactic plain muscle as the native proteins. One dose of the specific antigen, in sufficient concentration to produce "maximal" response of the anaphylactic plain muscle, completely desensitizes the latter to further doses of any dimensions, provided that the experiment is not complicated by the use of an antigen preparation of normal toxicity. Either normal or anaphylactic plain muscle gives repeated responses to successive large doses of a normally toxic serum or other native protein, but this phenomenon is not anaphylactic response. When sensitizing doses of several antigens are given, a multisensitization of the plain muscle can be demonstrated. Desensitization of the muscle to one antigen is not without effect on its sensitiveness to the others. The washed plain muscle from guinea-pigs immunized to an antigen, by a series of injections, is sensitive to the antigen, like that from anaphylactic pigs. But the sensitiveness is, in this case, less rigidly specific, e. g., plain muscle from a guinea-pig immunized to horse-serum showed a subsidiary sensitiveness to sheep-serum.

The sensitiveness of the washed plain muscle is seen in passive as in active anaphylaxis, whether the serum producing passive sensitization is obtained from sensitive or from immune guinea-pigs. The actively or passively sensitized plain muscle, after being desensitized *in vitro*, can be resensitized *in vitro* by mere contact for some hours with a not too great dilution of sensitive serum. It has not yet been found possible to sensitize normal plain muscle in exactly the same way; but perfusion of a normal uterus for five hours, with diluted serum from sensitive guinea-pigs, produced a decided passive sensitization. The response t[illegible]ic antigen of the bronchioles of the anaphylactic [illegible] impaired by [illegible]cluding the abdominal viscer[illegible] pro-duced with appa[illegible] perfused with

36. **Tolerance of Rat to Strophanthus.**—The minimum lethal dose by subcutaneous injection of an extract of strophanthus, Gunn found to be thirty times greater for the rat than for the rabbit. A solution of this extract, twenty to forty times stronger, is required to arrest the isolated rat's heart than suffices to arrest the isolated rabbit's heart in the same time. The congenital tolerance of the rat to strophanthus can therefore be explained by the fact that the rat's heart itself is insusceptible to the action of strophanthus. The tolerance of the toad's heart to digitalis-like poisons may be unconnected with the fact that the toad secretes a poison which has a similar cardiac action.

Medical Record, New York

February 22, LXXXIII, No. 8, pp. 323-368

40 *Treatment of Diseases of Vegetable Parasitic Origin by Deep Injections of Mercury. B. L. Wright, U. S. Navy.
41 Suspension Laryngoscopy. W. Freudenthal, New York.
42 *Effects of Beerless Exchange on Morals and Health of Our Soldiers. L. M. Maus, U. S. Army.
43 Paralysis of Recurrent Nerve Due to Circulatory Lesions; Recent Therapeutic Measures. J. W. Gleitsmann, New York.
44 Care of Speech Defectives. E. W. Scripture, New York.
45 *Large Doses of Antitoxin Given Early; Means of Preventing Laryngeal Stenosis. L. Fischer, New York.
46 Etiology of Iritis. G. W. Vandegrift, New York.
47 Plea for Greater Consideration for Opium Addict. C. B. Pearson, Baltimore.

March 1, LXXXIII, No. 9, pp. 369-414

48 Cardiospasm and Idiopathic Dilatation of Esophagus. M. Einhorn, New York.
49 *Tibial Bone Transplantation in Postoperative Mastoid Wound. M. J. Ballin, New York.
50 Jung's Modification of Freudian Theory of Neuroses. S. P. Goodhart, New York.
51 Postoperative Gastroenteric Paralysis. J. T. Pilcher, Brooklyn.
52 Warming Anesthetic Vapors Neither Useless nor Fallacious. R. C. Coburn, New York.
53 Luctin Skin Test in Diagnosis of Syphilis. A. G. Rytina, Baltimore.
54 Occupation as Therapeutic Measure. W. R. Dunton, Towson, Md.
55 Teeth Growing in Nasal Fossa. E. H. Griffin, New York.

40. **Treatment of Diseases of Vegetable Parasitic Origin.**—Cases of typhoid, lymphangitis, bronchopneumonia, furunculosis, gonorrheal cystitis and arthritis, and over forty acute colon bacillus infections were treated by Wright with mercury, which he believes to be the chemical affinity for every vegetable organism. In nearly all these forty cases the disease began suddenly, being ushered in by a mild chill, followed by temperature of an intermittent type, with a daily range from subnormal to 102-103 F. and several times reaching 105 F. The pulse from 85 to 104, being slow in relation to temperature. Headache and painful joints were common. The mentality bright. The white count was low, ranging from 3,000 to 6,000 Three types presented: *Pulmonary*, in which there was severe paroxysmal cough, profuse purulent expectoration, which at times was purulo-sanguineous, associated with severe pains in the involved lung, and at times with inflammation and ulceration of tonsils and pharynx. These cases gave rise to higher temperatures. *Abdominal*, in which there was somewhat obstinate constipation associated with colicky abdominal pain, usually in the gall-bladder region. *Genito-urinary*, in which some part of this tract was involved, giving rise to the usual symptoms produced by an acute inflammatory process of the organ infected.

The organism, an actively motile bacillus, Gram-negative, was found in the urine of every patient, in the blood of sixteen patients examined, in the sputum of pulmonary patients, in tonsillar secretions and exudates, and in the pus from the one subcutaneous abscess noted. Out of five cultures made from the blood specimens of five patients, four were positive for this organism. Numerous cultures from the urines and other fluids and exudates were positive. Mercuric succinimid in doses of 1 to 1½ grains was given in every case.

42. **Effects of Beerless Exchange on Morals and Health of Soldiers.**—Maus says he has watched the effects of alcohol on the mental and physical condition of our officers and men for more than a generation and has never seen one that it has benefited. On the other hand, he has observed its injurious influences on thousands of soldiers, and has known hundreds of officers who were cut down in the prime of life, dismissed or rendered useless and retired on account of drinking. The army of to-day, he says, is abstemious as compared with the drinking army of the canteen days, and anyone who states the contrary is ignorant of its previous history.

The use of any mild form of alcoholic drink leads to the habits of strong drink. Besides, the social environment of the beer club would eventually force the young abstaining recruit to drink. Very few of these men would be able to withstand the influences of the drinking non-commissioned officers and older soldiers. Those who drink use the argument that drinking at the canteen adds to the dividends of the club. With a bar, the post exchange becomes a loafing and drinking place and many of the young soldiers would be forced to drink to escape the taunts and jeers of the drinking element.

In considering the final results, Maus continues, there is little to choose from between beer-drinking Germany, wine-drinking France, ale-drinking England, whisky-drinking Scotland and Ireland, or mixed-drinking America. It is the poisonous agent, alcohol, which is concealed in varying degrees, and not the other constituents of the beverage. The underlying argument of the saloon men is that by governmental sanction of the canteen the government places its stamp of approval on drinking, which would prove of inestimable value to the liquor interests and correspondingly damaging to the temperance movement.

In view of our knowledge of the effects of drinking, he questions whether the government has the right to prohibit the use of alcohol among its public servants, especially among the pensionable class. Admitting that it is the private affair of the ordinary individual who elects to drink, does it not become a governmental affair when a pensionable official not only injures his health thereby, but reduces his efficiency and usefulness? We are living in a progressive and sane age and there is no place in this busy world for the tippler or barroom habitué. If the War Department really desires to improve the condition of the soldier, it should place a premium on temperance through official recognition of the abstaining class. Men are paid for superiority in markmanship, and why not pay for total abstinence, which is the greatest factor of them all in promoting the efficiency of the army and raising its standards? Those who cherish the hope that alcoholism and diseases of vice will vanish some day from the army, should never expect this ideal condition among beer-drinking soldiers.

45. **Preventing Laryngeal Stenosis.**—Four cases are cited by Fischer, a study of which makes it evident that effectual treatment consists in giving a large injection of antitoxin at the beginning of the treatment. In a severe case 10,000 to 20,000 units should be injected at the beginning; whether or no more antitoxin should be injected must depend on the result of the first injection. In all of the cases reported the first injection seemed insufficient, and it does seem that the additional doses help to modify the toxemia. Fischer's rule in intubation and extubation has been: 1. Avoid force; thereby avoid injury. This rule has been his greatest aid in preventing retained tubes. 2. Do not hurry. While in a severe laryngeal stenosis a given amount of haste is necessary in selecting the proper-sized tube and making preparations, but when it comes to the introduction of the tube the inflammatory process and subnormal condition must be remembered; hence, one should go slow. The nervous and frightened child must be quieted, especially when considering extubation. Fischer's rule is to give an antispasmodic for twelve hours preceding the removal of the tube. Codein, one-eighth to one-fourth of a grain, to a child two years old or over, repeated in three hours for four doses, or 10 grain doses of sodium bromid with 2 grains of chloral hydrate, repeated in six hours (two doses only), will allay nervous excitability and have a quieting effect. The antispasmodic should be continued for twenty-four hours after the removal of the tube. The spasm due to fear of the operating table when repeated intubation and extubation are practiced may in rare cases require an inhalation of a few drops of ethyl chlorid prior to extubation. Dover's powder is a valuable drug as an antispasmodic prior to extubation.

Intralaryngeal medication consists in applying a coating of medicated gelatin to each tube. Such medication as orthoform, 10 per cent. in gelatin or ichthyol gelatin, served well in a case of persistent tube, reported seven years ago. Owing to the thickness of the coating of gelatin a tube one size smaller than usual is required. In severe cases of diphtheria it is better to give 10,000 units by hypodermic means. As a rule some benefit should be noted within twelve hours after such treatment. If septic manifestations are evident, especially if the patient has been untreated for many days, the most rapid method of destroying the diphtheritic poison is by injecting into the median basilic vein at least 10,000 to 20,000 units of diphtheria antitoxin.

49. **Tibial Bone Transplantation.**—In three cases Ballin has resorted to bone transplantation in the mastoid wound. The piece of bone used for the transplant is taken from the crest of the patient's tibia. The operation is performed under general anesthesia. The bone, with its periosteum carefully detached, is immersed into warm saline solution, and then is placed into the mastoid wound as quickly as possible in such a manner that its raw surfaces come in contact with the clean granulating surfaces of the mastoid bone itself. The skin is then carefully sutured with the exception of a small orifice in the lower angle, in which is placed a small piece of gutta-percha drain for a few days. The transplanted bone acts as a bridge and on this rests the skin of the mastoid region. The air space below the transplant fills up with a blood-clot, which becomes organized and eventually replaced by new bone from the transplant, so that after a time the cavity becomes obliterated. Ballin does not advocate this procedure as a routine measure, but believes it is of value in cases in which there is a clean granulating wound.

New Mexico Medical Journal, Las Cruces

February, IX, No. 5, pp. 107-134

56 Pernicious Anemia. N. H. Morrison, Los Angeles.
57 Poliomyelitis. M. K. Wylder, Albuquerque.
58 Climate vs. Sanitation. C. T. Sands, Las Cruces.
59 Diagnostic Symptoms Manifested in Eye. W. T. Salmon, Albuquerque.

New York Medical Journal

February 22, XCVII, No. 8, pp. 373-424

60 Diagnostic Significance of Pain in Tabes. A. M. Hamilton.
61 Mortality in Four Thousand Feeble-Minded and Idiots. L. P. Clark and W. L. Stowell, New York.
62 *Contradictory Findings in Wassermann Test. A. L. Wolbarst, New York.
63 Day Camp for Tuberculosis. A. P. Francine, Philadelphia.
64 Maimonides the Physician. M. Kahn, New York.
65 Functional Nervous Conditions. W. V. P. Garretson, New York.
66 Sewage Pollution of Great Lakes. A. J. McLaughlin, Washington, D. C.
67 Colorado Method for Examination and Care of Public School Children. M. E. Bates, Denver.

March 1, XCVII, No. 9, pp. 425-476

68 Essential Features of Symptomatology and Prognosis in Dementia Præcox. F. X. Dercum, Philadelphia.
69 *The Diagnostician. A. Bassler, New York.
70 History of Bloodletting. F. H. Garrison, Washington, D. C.
71 Newer Teachings of Diseases of Gastro-Intestinal Canal. M. I. Knapp, New York.
72 *Family Incidence of Malignant Tumors. G. L. Rohdenburg, New York.
73 Otology from Medical Point of View. H. N. Spencer, St. Louis.
74 Intramural Abscess of Puerperal Uterus. A. H. Harrigan, New York.
75 Strangulated Hernia. H. Goldstein, New York.
76 Chorea. P. H. Markley, Camden, N. J.

62. **Contractions in Wassermann Test.**—Wolbarst emphasized the fact that the Wassermann reaction is dependent for its results on the skill and knowledge of the serologist. The results of the test depend in great measure on the absolutely perfect standardization of the reagents used; these are subject to variation in the hands of different serologists. As a result of these differences, diversity in results is not infrequent, but insufficient attention has hitherto been given to this particular feature of the reaction. He further believes that it is a gross error to accept the findings of one serologist as conclusive, particularly if his result is positive and the diagnosis dependent on his report; his work should be checked up by one or more equally competent workers. If two or more competent serologists report on a given serum, the majority opinion may be accepted as fairly conclusive; frequent reexaminations are always of advantage to the patient. Of thirty-seven cases thus studied by Wolbarst for discrepancies, agreement of findings took place in twenty-six cases (70 per cent.); absolute contradiction of findings took place in five cases (14 per cent.); slight disagreements took place in six cases (16 per cent.). He would have all mention of results of the Wassermann test, in the literature or elsewhere, accompanied by the name of the serologist who made the test, in order that the measure of accuracy and skill employed may be estimated.

69. **The Diagnostician.**—Bassler concludes his paper as follows:

> It is plain that advance in medicine in America has reached the point where the gaps should be filled. This, as has been suggested, can be done by bringing all of the various kinds of men to a focus or by improving the knowledge of each of them so that there will be a broader scope—both of which under the conditions that exist in medicine to-day are seemingly impractical. Thus, one of two things is necessary, either that a combination of men interested in the various sides of medicine club together primarily to arrive at diagnoses so that any one of them can cover any scope in the therapy demanded in a case, or that we develop a new department, that, namely, of the diagnostician and consider the specialists as skilled workers in therapy. For this type of man (diagnostician), on whom the future will inevitably shower places, there is now beginning a crying demand. While one cannot be a Jack of all trades, it is possible for any young man who starts out with the ambition to become a diagnostician to arrive somewhere near the goal. This man must start young, be well grounded in learning, preferably with an academic education, and then a graduate from a good medical school and a hospital with a large and general service. After this he must engage in the work that any large city with its various clinics and constant demand for clinical assistants offers. During this time he must become familiar with all that pertains to diagnosis work in the diseases of skin, eye, ear, nose and throat, neurology, internal medicine, surgery, orthopedics, pediatrics, etc. If he is not over keen about learning all there is to therapeutics, he can in the course of a few years learn his diagnostics well. While engaged in the various clinics in different subjects and under different men, he should be attached to some hospital where he can observe cases under bed observation. If necessary, he can engage in general practice to support himself and help to give him material to examine with all of the various means of doing so he has learned. He would be an excellent general practitioner on the way, who in the course of time will have succeeded well in family practice and will then be ripe for taking up a specialty for definite application. In the selection of this, I would suggest that some such men of to-day take up the specialty of diagnosis, so that when the time comes, as it inevitably will, such men will exist. The people have established the specialists, and the ambition of medical men has followed. In the omissions and commissions seen on the part of different men in the various branches, medicine is now calling for diagnosticians. In the future this want will become greater rather than less, and it will not be many years when the people will demand them. Let us in this instance be progressive enough to see this emergency coming, and have men capable to meet it when it arrives.

72. **Family Incidence of Malignant Tumors.**—The three series of cases cited, Rohdenburg believes, are typical examples of the types described by Behla and others. *Cancer à deux*, so-called house infections, and family transmission are all represented. Where the clinical history as to previous sources of irritation has been carefully inquired for, it has been found. Three families have been observed during the last six years. Mrs. A., aged 50 years, lived in New York in the winter, and at a little town of 500 inhabitants in the southern portion of the state in the summer. Five years before her present trouble her husband had purchased their country home from an estate. The previous owner of the property had died of carcinoma of the stomach, six months after the death of his wife; and she had died of a cancer of the uterus. Five years after Mr. A. had purchased this house as his summer home, his wife, while in a runaway accident, was struck on the left breast. Four months after this accident a carcinoma developed at the site of this bruise. This was followed in three months by another carcinoma of the same type in the opposite breast. Both breasts were amputated. The patient died of a general carcinomatosis three years after the accident.

During the last six months of Mrs. A.'s illness, an epithelioma of the cervix uteri developed in her mother, Mrs. Z., aged 80 years. From this she died [illegible] six months, the immediate cause of death being a profuse hemorrhage. Mrs. Z. had had a severe bilateral laceration of the cervix for over forty years. Shortly after Mrs. A. was operated on for carcinoma of the breast, two of her sons married two sisters of the family H. The H.'s lived seven miles from the A.'s. Four months after the death of Mrs. A., in the father of the H. sisters, developed a sarcoma of the large intestine, in the region of the splenic flexure. Mr. H. had suffered for over fifteen years with obstinate constipation, due in all probability to adhesions following general peritonitis, the peritonitis, in turn, being caused by a perforated appendix. Mrs. Z. lived with Mrs. A., and Mr. H. had frequently been to see both while Mrs. A. was sick. All the patients were at the onset of the illness exceptionally well nourished.

The family W. furnishes the second series of cases. In Mr. W., aged 52, developed a carcinoma of the large intestine. Previous to this time he had suffered for years from what was termed a "nervous diarrhea." He died one year after a palliative operation. Four months after his death, Mrs. W. had an epithelioma of the breast. For fifteen years she had at the site of the malignant tumor formation a small wart. As soon as she heard the diagnosis in the case of her husband, on the advice of a nurse, she applied sodium ethylate to the wart. Instead of disappearing the wart commenced to grow, at first slowly, and then more rapidly. The affected area was excised and the diagnosis confirmed microscopically.

The third series of cases occurred in family P. Mr. P., aged 45 years. furnished the following history: He married at the age of 20 years. Two years after marriage his wife showed cancer of the breast, from which she subsequently died. He then married his wife's sister, and she, five years after her marriage, also had a cancer of the breast. After the death of his second wife he remained single for seven years and two years ago married for the third time a widow, aged 42. The present Mrs. P. presented what was clinically a carcinoma of the breast. This diagnosis was later confirmed by operation and microscopic examination. On very close questioning Mr. P. admitted sexual abnormalities. He stated that he could obtain sexual gratification only by biting his partner and that the site of election was the breast. He seldom bit so as to draw blood, but often caused subcutaneous hemorrhages, slight in amount. In brief he repeatedly contused the breast tissues.

Ohio State Medical Journal, Columbus

February 15, IX, No. 2, pp. 53-104

77 Value of Cystoscopy in Diagnosis of Renal Tuberculosis. F. C. Herrick, Cleveland.
78 *Influence of Nose on Pulmonary Râles. L. C. Grosh, Toledo.
79 Operative Management of Compound Fractures. B. F. Barnes, Newark.
80 Some Advantages in Using Two Ends of a Suture. M. D. Stevenson, Akron.
81 Intravenous Administrations of Sublimate. Hyrgolum, Oxycyanid and Sublamin in Salvarsan Relapses. M. L. Heidingsfeld, Cincinnati.
82 Municipal Control of Milk Supply of Ohio. C. F. Tenney, Toledo.
83 Value of Roentgen Ray in Diagnosis of Gastro-Intestinal Lesions. H. J. Means, Columbus.

78. Abstracted in The Journal, May 18, 1912, p. 1534.

Pennsylvania Medical Journal, Athens

February, XVI, No. 5, pp. 337-420

84 Dietetics and Policing of Camps. H. A. Arnold, Ardmore.
85 Functional Psychoses of Senile Period. A. C. Buckley, Philadelphia.
86 Desiccation Process of Tissue Destruction as Applied to Certain Pathologic Conditions. W. L. Clark, Philadelphia.
87 Early Paralysis. A. Gordon, Philadelphia.
88 *Treatment of Inguinal Hernia in Children. E. W. Meredith, Pittsburgh.
89 Operative Technic of Strangulated Hernia. J. D. Singley, Pittsburgh.
90 Department of Health's Activity in Handling Tuberculosis in Pennsylvania. B. F. Royer, Harrisburg.
91 Scintillating Scotomata Associated with Migraine. L. C. Peter, Philadelphia.
92 Observations on 103 Consecutive Operations on Thyroid. W. D. Hamilton, Columbus, O.

88. Abstracted in The Journal, Nov. 2, 1912, p. 1647.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

February, X, No. 110, pp. 49-96

1 *Treatment of Acute Abdominal Cases in Children. P. L. Mummery.
2 Flagellate Dysentery in Children. Mello-Leitao.
3 *Fatal Hemorrhage from Throat. J. D. Rolleston.

1. **Treatment of Acute Abdominal Cases.**—Mummery discusses intussusception, acute appendicitis and acute obstruction, reviewing the clinical history and differential diagnosis of each. He insists on the importance of regarding all acute abdominal symptoms in children as requiring the most serious consideration; and, where a serious intra-abdominal lesion is diagnosed or suspected, on the necessity for operating as soon as possible.

3. **Fatal Hemorrhage from Throat.**—A girl, aged 6 years, was admitted to hospital, certified to be suffering from diphtheria. Beyond an attack of whooping-cough at the age of 3 years she had until recently been a healthy child and there was no family history of bleeding. Five weeks before admission she had had measles, since when her voice had been husky. She complained of sore throat, and had a croupy cough and the neck glands became swollen. At 9 a. m. the fifth day, she suddenly gave a cough and a huge gush of blood poured out of the mouth. Death preceded by marked cyanosis occurred within five minutes. No diphtheria bacilli but only cocci were found in three successive cultures from the throat and one from the nose. Necropsy: Abscess cavities in both tonsils, ulceration of the uvula, soft palate, epiglottis, frenum epiglottidis, vallecula and ary-epiglottidean folds. Deep ulceration of laryngeal portion of pharynx exposing muscular tissue. Three small superficial ulcers above right vocal cord. The exact site of the bleeding vessel was not determined, but there was no evidence of erosion of external carotid, internal carotid or internal jugular, nor of any glandular abscess.

British Medical Journal, London

February 15, I, No. 2720, pp. 321-372

4 Appendicitis: Plea for Immediate Operation. E. Owen.
5 Function of Appendix and Origin of Appendicitis. E. M. Corner.
6 Carcinoma of Colon. J. Cunning.
7 *Results of Excision of Hip-Joint in Thirty-Four Cases of Suppurating Tuberculous Disease. C. A. Morton.
8 Fifty-Five Cases of Suprapubic Prostatectomy, with Four Deaths. A. Fullerton.
9 Rheumatoid Arthritis. F. G. Thomson.
10 *Acute Pneumonia During Treatment with Arsenic. F. P. Weber.
11 Three Cases in Midwifery Practice. J. Reid.

7. **Excision of Hip-Joint for Tuberculous Disease.**—All of Morton's operations have been performed by the anterior incision, which starts just below the anterior superior spine and runs downward, passing between the sartorius and the tensor fasciae femoris, and then between the rectus and gluteus minimus. All cases were drained, but within two months in most cases all discharge ceased and the wounds healed. This is more than one can expect if only the abscess sac is dealt with, and is, he thinks, the great advantage of excision as compared with methods in which the abscess alone is dealt with. In nearly all cases flexion to a right angle was possible, but lateral movement was not usually as good as flexion, and in some cases was quite limited, but in one of the cases movement was almost perfect in all directions. Shortening was usually present to the extent of 2 to 2½ in. in cases seen some years after the operation, but may not be more than 1 in. for some time after the operation. In one case it was 4 in. nine years after the operation, the position of the trochanter indicating how the stump of the neck had become forced up on the dorsum ilii.

In some cases the limp was slight, but in others, some years after the operation, it was marked, even when the shortening had been compensated for by extra thickness of the sole of the boot. There seemed to be a marked want of stability about the joint. But even in these cases the patient could walk a considerable distance. In some of the cases with more stable joints they could walk many miles, and one boy was said to be able to climb trees just like other boys. Morton cannot say whether the range of movement is as good after recovery when simply the abscess is dealt with and the head of the bone is not removed, because in the only two cases in which he did not remove the head (the two cases of arthrectomy) he did not see the patients years after; but he would not expect as good a range of movement. In one of the cases deformity recurred eight years after operation and was removed by weight extension. There was no recurrence of the disease. Recurrent deformity was rarely present in his series.

10. **Acute Pneumonia During Treatment with Arsenic.**—In a few cases Weber observed the sudden occurrence of pneumonia in children while they were undergoing arsenical therapy on account of lymphadenoma or some other disease. He believes that the association was no chance one, but that the pneumonia was in some way dependent on the taking of arsenic, as is arsenical herpes zoster. Two of the patients likewise had attacks of arsenical herpes zoster. The rapid recovery from the lung disease was another striking feature. The patients were young, and the recovery from the pneumonia was excellent, even when the general condition was extremely bad. There was little in the way of distressing cough or pain. Weber believes that arsenic may possibly predispose some persons to an attack of (? pneumococcal) pneumonia, just as it is acknowledged to predispose some individuals to an attack of herpes zoster, which is, perhaps, like pneumonia, a disease of infectious (microbic) origin.

Clinical Journal, London

January 29, XLI, No. 17, pp. 257-272

12 Lister's Work and Teaching. W. W. Cheyne.
13 *Treatment of Fractures of Lower End of Humerus. G. Simpson.

February 5, XLI, No. 18, pp. 273-288

14 Case of Anemia of Pernicious Type with Acholuric Jaundice. F. J. Poynton and H. C. D. Pedler.
15 Treatment of Club-Foot in Early Childhood. A. S. B. Bankart.

February 12, XLI, No. 19, pp. 289-304

16 Chronic Intestinal Stasis. W. A. Lane.

13. **Treatment of Fractures of Lower End of Humerus.**—The plan Simpson adopts is to have a skiagram taken, then give an anesthetic and reduce the fracture; bandage the arm up in acute flexion and then have another skiagram taken to see that the reduction is satisfactory. After ten days he takes off the bandage and lets the arm come down to a right angle and fixes it in that position. He looks at the elbow every other day and puts it up each time at a different angle. Finally, on the twentieth day, he leaves off the bandage and lets the patient do what he likes with the arm. All that is needed is a piece of lint, some chloroform (or, better still, some ether), a mouth-gag and tongue-forceps, some cotton-wool, a bandage and some common sense. Giving an anesthetic is, he thinks, the essential point in the treatment. As a matter of fact, even with complete relaxation of the muscles and with plenty of time, considerable difficulty may be met in effecting reduction. Passive movements in these cases he regards as being not only useless, but they delay recovery of movement. Massage is harmful in the early stages, and should only be used after movement has returned. Interference with the circulation is always liable to occur if a swollen arm is flexed.

Journal of Laryngology, Rhinology and Otology, London

February, XXVIII, No. 2, pp. 57-112

17 *Nerve-Supply of Inferior Turbinal as Shown by Vital Staining. T. W. E. Ross.
18 Report for Year 1912 from the Ear and Throat Department of the Royal Infirmary, Edinburgh. Part I, Analyses of Seventy-Six Consecutive Operations on Frontal, Maxillary, Ethmoidal and Sphenoidal Sinuses. J. S. Fraser and R. Verel.
19 Diffuse Osteomyelitis from Nasal Sinus Suppuration. D. McKenzie.

17. **Nerve Supply of Inferior Turbinal.**—From the facts stated by Ross, it is obvious that the inferior turbinals have an abundant and complex nerve supply. The complexity is greatest in the subepithelial layer. Here several varieties of nerve ending are found, the most striking of which is the plexus formed by leashes of nerve-fibrils, best seen toward the anterior portion of the turbinal. The medullated fibers seem principally destined to end in the epithelium, but those which do generally give off fibrils to capillaries and other structures in the subepithelial layer. Some medullated fibers end in the subepithelial layer, their ultimate fibrils going to form the wide-meshed plexus already described. The nerve supply of the subepithelial capillaries is very rich. Fibrils pass to them from both varieties of fiber, and also from the terminal plexuses of fibrils.

Lancet, London

February 15, I, No. 4668, pp. 435-506

20 *Paths of Infection in Genito-Urinary Tuberculosis. K. M. Walker.
21 Appendicitis; Plea for Immediate Operation. E. Owen.
22 *Remote Results of Tonsillotomy and Tonsillectomy. H. Whale.
23 Operation for Hypospadias. A. Edmunds.
24 *Case of Addison's Disease in Boy Aged 10 Years. F. Langmead.
25 *Polycystic Disease of Kidneys. H. Rischbieth and C. P. C. De Crespigny.
26 Chronic Internal Hydrocephalus. J. Rae.
27 Action of Scharlach R on Roentgenized Skin. J. O. W. Barratt.

20. **Paths of Infection in Genito-Urinary Tuberculosis.**—Speaking of tuberculosis of the testicle, Walker says that infection takes place, as in gonorrhea, by means of the cord and not by the blood-stream. That cases of hematogenous infection occur cannot be denied, but they are few in number. The evidence in favor of the frequent occurrence of a descending genital tuberculosis is tabulated as follows: Clinical evidence: 1. It is extremely rare to find tubercle of the epididymis without discovering some indication of disease of the prostate or the vesicles. 2. Prostatic tubercle is not infrequently found without any lesion of the testicle. 3. The appearance of a tuberculous epididymitis is often preceded by symptoms of prostatitis or vesiculitis—the so-called prodromata of tuberculous epididymitis. 4. The earliest signs of tuberculous disease are found at the lower pole of the epididymis. This is the first position which opposes the line of march of the invading organisms. 5. Tuberculous disease of the testicle is analogous to acute infections which are known to have been produced by extension from the urethra. The ordinary type of tuberculous epididymitis has no analogy to the hematogenous orchitis of mumps. Pathologic evidence: 1. Lesions of the testicle without disease of the prostate are rare, whereas tuberculous lesions of the prostate are not infrequently found unaccompanied by disease of the testicle. 2. When tubercle of the testicle is found in association with tubercle of the prostate, the lesions in the prostate generally have the appearance of being older than the lesions in the epididymis. 3. Tuberculous nodules in the lower pole of the epididymis usually appear older than those in the upper pole. They are the first to soften and break down. Experimental evidence: 1. Microorganisms and inanimate granules are rapidly absorbed from the urethra and carried to the testicle. 2. A tuberculous epididymitis may be experimentally obtained by inoculating the urethra after having damaged one of the testicles.

22. **Results of Tonsillotomy and Tonsillectomy.**—The disadvantages of tonsillotomy, according to Whale, are: 1. The initiation of an infection, whether manifesting itself as tonsillitis, lymphadenitis, or both. Such sequelae are more likely if a very free and deep removal has been performed than if only a moderate amount of the tonsil has been removed. 2. Recurrence of the trouble for which the operation was performed, except in the case of voice troubles, when recurrence is no more probable than after tonsillectomy. The disadvantages of tonsillectomy are: 1. A risk of serious or even dangerous hemorrhage at operation. 2. A risk of harmful deformity supervening later; the deformities most likely to cause harm are adhesion of the posterior faucial pillar to the posterior pharyngeal wall, and overgrowth of the plica triangularis. 3. A risk of voice troubles supervening later, even without any causative deformity. To any patient who requires operation for some other reason, who has never had any voice trouble, and whose liveh [illegible] tion depends on the use of the voice, tonsill [illegible] urged wit [illegible] n. Thus it would appear [illegible] a operation. But [illegible] t is more likely

is sought; notably so in the case of tonsillitis or lymphadenitis; moreover these two infections are never initiated by tonsillectomy. It is important to eradicate the lower pole.

24. **Addison's Disease in Boy.**—An especially interesting feature of this case was the small size of the heart, which weighed only 3 ounces.

25. **Polycystic Disease of Kidneys.**—The points of interest in the first case were: In Case 1: (a) The age, 26 years, at which the condition first became manifest. If this condition was congenital in origin, as is to some extent suggested by the fact that this patient showed what appeared to be a congenital abnormality of the heart as well, it is perhaps remarkable that kidneys of this size and degree of cystic degeneration should not have caused symptoms, renal or other, earlier in life. (b) That the first symptom produced was intestinal obstruction; this, however, is not very surprising, considering the size to which these tumors had attained. (c) That one kidney of the type here shown should be capable of maintaining the renal functions and warding off symptoms of renal insufficiency for some six years and maintaining perfect health. This individual was passed for life insurance having only one kidney, and that polycystic, and appeared to be in good health up to the time that one of the complications of otitis media carried him off. (d) Again, the age is peculiar when statistics of published cases are considered, for patients affected are usually very old or very young.

The points of interest in the second case are summarized as follows: (a) The age, 62 years, to which this individual attained with kidneys such as those shown without suffering symptoms suggestive of renal disease. This, however, is not uncommon in this connection. (b) The problem, was the acute colitis from which this man died a terminal infection in a chronic uremic state, or an independent condition? For the evidence of uremia was very slight. (c) The possible part played by gout in the causation of the polycystic degeneration of the kidneys in this case. That is to say, Are we dealing with a congenital condition in a man, aged 62 years, the result, let us say, of embryonic failure of union between secreting and conducting parts of the kidney (which has, however, given rise to no symptoms for so many years)? Or is the condition acquired, the effect of, let us say, fibrous proliferation around the tubules, exudation into them, or cicatrization after nephritis, causing obstruction of the urinary passage (as Morris suggests), and possibly in this case the effect of gout? Any of these causes might cause a polycystic condition such as these kidneys show. (d) If the acute colitis from which this man died was a terminal infection in a uremic state, are we to regard the latter as that of the last stage of polycystic disease or degeneration of the kidney? Or is it to be considered as that of chronic interstitial nephritis, of possibly gouty origin, affecting a kidney already polycystic? (e) Or is the condition, *in toto*, one of polycystic degeneration of a granular kidney? There is no note of the condition of the urine. But since the urine may have much the same characters in all the above conditions, its diagnostic value here would not be great. These kidneys show little indication of chronic interstitial nephritis in fibrotic changes, and do not resemble any specimens of *cystic glandular kidney* that one has seen. Further, the arteries are rather small, very little thickened, and not atheromatous. The hypertrophy of the left ventricle was very slight, arterial tension not very markedly increased, and the degree of atheroma and arterial degeneration that was present not more than would be fairly often seen without symptoms in an individual of this age who, like this man, had been a manual laborer all his life. Therefore the hypothesis that chronic interstitial changes, the effect of gout, may have played a leading part in the causation of the polycystic disease of these kidneys must be abandoned. They would seem to be examples of "polycystic degeneration," whether they be congenital or not.

Medical Press and Circular, London

January 29, XCV, No. 3847, pp. 109-136

28 Surgical Methods of Dealing with Eclampsia. J. H. Croom.
29 Present Position of Dermatology. D. Walsh.
30 Transverse Incision in Laparotomy. A. J. Wallace.
31 Neurology of Visual System. (To be continued.) H. Campbell.

February 5, XCV, No. 3848, pp. 137-164

32 Diagnosis of Early Pulmonary Tuberculosis. A. J. Whiting.
33 Neurology of Visual System. H. Campbell.
34 Diagnosis of Causes of Chronic Recurrent Abdominal Pain. J. O. Symes.
35 Pituitary Extract in Obstetrics. W. J. Gousew.

February 12, XCV, No. 3849, pp. 165-188

36 Scientific Basis of Organotherapeutics. A. Münzer.
37 Sanatorium Benefit in Ireland. R. J. Rowlette.
38 Ultramicroscopic Organisms in Disease. E. A. Cockayne.

Annales de l'Institut Pasteur, Paris

December, XXVI, No. 12, pp. 937-1044

39 Contagious Agalactia in Sheep and Goats. Epizootic Causing Severe Lesions in Udders, Eyes and Joints. (L'agalaxie contagieuse de la brébis et de la chèvre.) H. Carré.
40 Negri Bodies in Rabies. (Etude des corpuscles de Négri et des formations spéciales à la rage à virus fixe.) Y. Manouelian.
41 Inhibiting Action of Carbon Dioxid on Hemolysis and Bacteriolysis. Sawtschenko.
42 Potassium and Sodium in Living Tissues. (Etude de potassium et du sodium chez les animaux.) P. J. Gérard.
43 *The Manganese Normally in the Blood. G. Bertrand and F. Medigreceanu.
44 Technic for Preservation of Soluble Toxins: No Impairment of Properties After Seven Years and Four Years. Nicolle and C. Truche.

43. **Manganese in the Blood.**—Reviewed editorially in The Journal, March 1, p. 674.

Archives Générales de Chirurgie, Paris

January, VII, No. 1, pp. 1-128

45 Congenital Malformations of the Neck; Five Cases. (Les formations branchiogènes du cou.) L. Delrez.
46 *Operative Treatment of Meningeal Hemorrhage in the Newly Born. (Etiologie, symptomes et traitement chirurgical des hémorrhagies meningées du nouveau-né.) J. Doazan.
47 Felon from Infection with Hog Cholera. (Panaris superficiel par le bacille du rouget du porc.) P. Mauclaire.

46. **Meningeal Hemorrhage in the Newly Born.**—Doazan advocates lumbar puncture at once on suspicion of meningeal hemorrhage in a new-born babe. If this fails to relieve, the anterior fontanel should be punctured if it is bulging. After this it would be better to wait for the brain to develop more resisting power before attempting an actual operation to relieve pressure on the brain. Gilles of Toulouse prefers to puncture the fontanel at once, before doing even lumbar puncture, introducing the Pravaz needle, as far from the longitudinal sinus as possible, to a depth of 5 mm. or even 8. This draws the blood at once before it has had time to clot or be absorbed. Puncture of the fontanel is naturally merely an exploratory intervention, but it may have actual curative value as in a case reported by Gilles last July.

In prophylaxis all causes liable to increase the blood-pressure in the infant's brain should be carefully guarded against. Doazan gives the details of six cases from the literature not including Cushing's experiences. Four of the children developed apparently normal thereafter. In Gilles' case lumbar puncture was negative and he then punctured the bulging fontanel, withdrawing 2 c.c. of blood and about an equal amount on repetition of the puncture at two other points in the fontanel. The child's condition was satisfactory until the age of 9 months when it died after having had several convulsions. Simmons' little patient has developed quite normally since the extensive decompressive operation which released a large amount of black blood. Lumbar puncture had been negative and the fontanels were not distended. Another child relieved by the operation died from enteritis at 9 months. Doazan does not seem to have any personal experiences of the kind to relate.

Archives Générales de Médecine, Paris

January, XCII, No. 1, pp. 1-96

48 The New Bacteriology of Tuberculosis in Relation to Its Diagnosis, Treatment and Immunization Against the Disease. J. Ferran.

Archives des Maladies de l'App. Digestif, Paris

December, VI, No. 12, pp. 661-719

49 *Case of Renal Diabetes. G. Roque and J. Chalier.
50 Case of Recurring Catarrhal Jaundice with Positive Tests for Typhoid. (Pneumotyphus hépatique éberthien à repetition.) G. Etienne.

51 Jejunocolic Fistula from Peptic Ulcer in Jejunum After Gastro-Enterostomy. Urrutia.

January, VII, No. 1, pp. 1-60

52 *Influence of Different Diets in Diabetes. M. Labbé and H. Bith.
53 Coprologic Localization of Source of Diarrhea. R. Goeffon.
54 Multiple Ulcerations and Perforations of the Small Intestine and Cecum from Postoperative Intestinal Toxi-Infection. G. de Rouville and H. Roger.

49. **Renal Diabetes.**—The patient in the case described is a man of 45 who has had polyuria constantly for fourteen years. Under the influence of alcoholic excesses, transient albuminuria develops, and during the last six years there has been also transient glycosuria with hyperglycemia. After a few weeks of rest and dieting both sugar and albumin disappear from the urine. With care the man may escape serious trouble, but if he persists in his drinking habits, the kidney lesions responsible for the albuminuria and glycosuria will probably become chronic and may entail uremia. But he will not have the usual complications of true diabetes, as his blood is free from sugar.

52. **Diet in Diabetes.**—Labbé and Bith report careful research on two well nourished diabetics and on eight losing flesh and with more or less acidosis, four of whom have died since in coma. In diabetics with denutrition and acidosis the indications are to combat (1) the hyperglycemia, (2) the loss of nitrogen, and (3) the acid intoxication. For the first the intake of carbohydrates should be restricted: for the second, the diet should be rich in nitrogen, and for the third indication the diet should be poor in meat and rich in carbohydrates. Labbé and Bith believe that these antagonistic indications are best met by varying the diet to fit the predominating symptoms at the time. As a rule, the aim is to keep the hyperglycemia in tolerable limits, but when acidosis menaces a vegetable diet should be promptly instituted. They have found it a good plan to allow a week of mixed diet; then three days' restriction to milk; then a week of mixed diet; then three days of oatmeal; then a week of mixed diet; then three days of soft mashed vegetables, etc. The best way is not to be too absolute but be guided by conditions as they develop and by the urine findings. Their experience has been that dry vegetables are as effectual if not more so than the oatmeal cure.

Archives Mens. d'Obstétrique et de Gynécologie, Paris

January, II, No. 1, pp. 1-112

55 Radium Therapy for Uterine Fibromas; Technic and Results in 193 Cases. H. Chéron.
56 Passage of Carbon Dioxid from Mother to Fetus. (Mécanisme du passage de l'oxyde de carbone de la mère au foetus et des respirations placentaire et tissulaire.) M. Nicloux.
57 Therapeutic Abortion from Forensic Standpoint. (L'avortement thérapeutique et la loi.) L. Tissier.
58 Maternity Benefit Laws. (La loi sur le repos des femmes en couches au Sénat.) L. Devraigne. (Le "Maternity Benefit" d'Angleterre. Ses conséquences sur l'enseignement et la pratique de l'obstétrique en Ecosse.) M. Vaudescal.

Bulletin de l'Académie de Médecine, Paris

January 28, LXXVII, No. 4, pp. 43-77

59 Mineral Elements in Cancer of the Liver. (Recherches sur la composition chimique du cancer du foie.) A. Robin.
60 Research on Variola Vaccine. R. Wurtz and Others.

Bulletins de la Société de Pédiatrie, Paris

January, XV, No. 1, pp. 1-38

61 *Prophylaxis of Contagious Diseases in Infant Wards. (La défense contre les maladies contagieuses à l'asile de débiles de Médan.) H. Méry and Malhéné.
62 Familial Recurring Dislocation of the Patella. (Un cas de luxation récidivante de la rotule.) M. Wilbouchewitch.
63 Desiccated Milk. (Essai sur la valeur alibile du lait desséché.) G. Variot and Others.
64 Inefficiency of Rectal Serotherapy. (Inefficacité de la sérothérapie par voie rectale.) E. Lesné and L. Dreyfus.

61. **Necessity for Better Prophylaxis of Contagious Diseases.**—Measles seems to be the gravest danger in foundlings' homes and similar institutions. Among the 200 children less than 2 years old at the Médan asylum for convalescent infants, measles caused 11.5 of the total mortality in the last three years. Without this the mortality would have been only 5 per cent.

Journal de Médecine de Bordeaux

February 9, XLIII, No. 6, pp. 83-96

65 *Ischemic Paralysis. (Paralysies du membre supérieur après emploi de la bande d'Esmarch.) P. Abadie and Desqueyroux.
66 Anatomy of Sinus Cavernosus. (Note sur la constitution des parois du sinus caverneux et les rapports des nerfs oculomoteurs et trijumeau avec ses parois externe et supérieure.) M. Ferron.

65. **Ischemic Paralysis.**—A robust young woman free from nervous troubles or infectious disease cut her finger and required a minor operation; the blood was expelled with the hemostatic bandage on the lower third of her arm. Flaccid paralysis followed, involving all the muscles of the forearm and hand with slight atrophy of the muscles. Under electricity and massage the paralysis began to improve after five weeks and complete recovery is anticipated now by the approaching end of the fifth month.

Lyon Chirurgical, Lyons

February, IX, No. 2, pp. 97-232

67 Present Status of Resection of Spinal Roots. (Indications et résultats de la résection des racines postérieures.) O. Foerster.
68 Resection of Joints Without Drainage. E. Villard and L. Tavernier.
69 Serodiagnosis of Cancer. (Séro-diagnostic des tumeurs malignes—Réaction de von Dungern.) P. A. Petridis.
70 Cancer of the Rectum. (Résultats immédiats et éloignés de l'opération combinée dans le cancer du rectum.) A. Chalier and E. Ferrin. To be continued.
71 Experimental Research on Operative Treatment of Acute Nephritis from Mercurial Poisoning. P. Mazel and J. Murard. Commenced in No. 1.

Presse Médicale, Paris

February 1, XXI, No. 10, pp. 89-100

72 Elementary Lesions in the Lungs. (Introduction à l'étude histo-pathologique du poumon.) G. Roussy and P. Ameuille.
73 Plastic Operation Providing New Outer Covering for Scrotum and Penis. (Technique opératoire de la génitoplastie masculine externe.) Bonamy and Dartigues.
74 Dwarf Growth from Bone-Muscle Dystrophy. L. Tixier and C. Roederer.
75 *Congenital Dilatation of the Bile Passages. (Cholangiectasies congénitales.) M. Letulle.

February 5, No. 11, pp. 101-108

76 Gaping of the Sutures of the Skull from Brain Tumor. (Disjonction des sutures craniennes par tumeur encéphalique.) A. Broca.
77 Action of Colloidal Copper on the Blood. H. Chabanier and L. Rollin.

February 8, No. 12, pp. 109-120

78 *The Bradycardia of Lead Colic. C. Lian and E. Marcorel.
79 *Treatment of Lymphorrhea. P. Sikora.

75. **Congenital Dilatation of the Bile Ducts.**—In the case reported a young woman had always been healthy until at the age of 25 symptoms of catarrhal jaundice developed keeping up for three months with progressive debility and loss of weight. The epigastrium protruded on the median line but more on the right side, and an echinococcus cyst was diagnosed. Puncture released four liters of a fluid containing large quantities of bile pigments. The gall-bladder could not be discovered and the cyst was merely sutured to the lips of the wound. The fever kept up and the patient succumbed to a hemorrhage in the interior of the cyst pocket, the eighth day. Necropsy revealed that the trouble was a general congenital dilatation of all the large bile ducts. The gall-bladder was unusually small and crowded to one side. Conditions thus rendered extremely serious even a mild acute infection of the bile passages.

78. **The Bradycardia of Lead Colic.**—Four cases are reported of true bradycardia in the course of lead-poisoning colic. It was tested by both the graphic tracings and the atropin test. Each systole of the ventricle was preceded by a single contraction of the auricle; the heart action was thus normal although so retarded. The bradycardia was not due to unduly high arterial pressure; both were evidently symptoms of the lead-poisoning. The atropin test indicated that the acute intoxication from the lead acted on the trunk of the pneumogastric nerve and also on its terminals in the Keith and Flack node.

79. **Lymphorrhea.**—Sikora discusses the loss of lymph from injury of the thoracic duct or other lymph vessel, concluding

with the statement that when it is of traumatic origin it can generally be arrested by simple procedures, compression, cauterization of the fistula or tamponing. In exceptional cases it may be necessary to ligate the trunk vessel. When due to an inflammatory or cancerous process, treatment should be addressed to the cause.

Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

January, VIII, No. 1, pp. 1-72

80 *Early Rising in the Puerperium. (A propos du lever hatif des accouchées.) B. de Saint-Blaise. (Est-on autorisé à penser que la pratique du lever précoce des accouchées retarde l'involution utérine et favorise la production des thromboses et der embolies?) L. Bouchacourt.
81 *Sudden Death of Syphilitic New-Born Infants. (Pathogénie de la mort "immédiate" des nouveau-nés syphilitiques.) A. B. Laborderie.

80. **Early Rising in the Puerperium.**—Saint-Blaise gives the exact findings in 291 parturients the tenth day. They were all free from constitutional disease, history of old uterine trouble or instrumental delivery, or necessity for obstetric interventions, and also free from pathologic conditions in the puerperium and from abnormal conditions in the genital organs. He excludes from his review 204 other women in his service who presented some of the above morbid conditions. In the 291 clinically normal women at the tenth day the fundus of the uterus was still 9 cm. above the pubis in 80; 7 cm. in 53; 5 cm. in 73, and 4 cm. in 44. Thus 260 of the 291 had not completed the involution of the uterus. Only in 31 was the involution complete; 12 of these women were primiparae and 25 had normal lactation, but 4 of these had considerable retroversion and although 12 appeared entirely restored, yet they still had considerable losses of blood. Of the total 291 women, 112 still had considerable losses of blood; 43 dark-colored lochia, 10 fetid; only 83 had very little or no trace of hemorrhage.

Bouchacourt is convinced that *keeping the women in bed* with the consequent atony of the muscles and congestion in the back and pelvis is a contributing factor to the development of thrombosis and embolism later. He reports two cases in which *after an absolutely normal delivery and puerperium* the women died suddenly when they first got out of bed, one the eighteenth and the other the thirtieth day after the childbirth. The first patient was a woman of 26 who had had a heart murmur during this and a previous *pregnancy and on* this account had been kept very quiet on her back for more than a week and was not allowed even to sit up until the tenth day. The heart had been carefully supervised and showed no *signs of weakness at any time. In the second case* the patient was a woman of 35 with considerable varicose enlargement of the veins in the thighs and vulva at a preceding pregnancy and pulmonary embolism developed the twelfth day while the *patient* was still in bed, but it subsided under wet cups. At the third pregnancy there were no varices but brief transient pulmonary embolism the eighteenth day with some fever. The thirtieth day she died suddenly as she was allowed to get up. Possibly this accident might have been avoided if the blood had been rendered more fluid by prophylactic organotherapy or citric acid lemonade. He mentions a number of historical instances of similar sudden death during the puerperium, when there was no question of early rising, and remarks that two sisters of the king of Spain died suddenly under similar circumstances, one in 1904 and the other last September. He cites further statistics totaling 3,034 cases of early rising without a single instance of embolism. Klein has had no thrombosis among 2,500 women allowed to get up from the first to the third day after childbirth, and Kümmel of Hamburg reported fatal embolism in 1 per cent. of his 1,210 laparotomies 1906-07, while in the two following years, when the patients were allowed to get up early, the mortality from this cause dropped to 0.19 per cent.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

January, XXI, No. 1, pp. 1-28

82 *Mechanism of the "Sudden" Death of Syphilitic Newly Born Infants. A. B. Laborderie.
83 Technic for Examination of the Hymen. A. de Dominicis.

81-82. **Sudden Death of New-Born Syphilitic Infants.**—Laborderie refers to the cases in which the child has been safely delivered and all seems to be going well. *Then the* child is seen to be becoming cyanotic and although it can be kept alive for a time by artificial respiration yet it gradually suffocates, and nothing can be found at necropsy to explain unquestionably the fatality. *Fournier ascribes it to an inaptitude* for living, but Laborderie has noticed that the children in such cases always have a very much distended abdomen. He observed this in a pronounced form in eight such cases recently, and *Sfameni of Cagliari has reported the same and* has drawn the practical conclusion that the children might be saved by an emergency paracentesis, releasing the gas or effusion in the abdomen and thus permitting the diaphragm to make its *normal excursions. All the symptoms in such cases* testify to the mechanical nature of the asphyxia and indicate the serious outlook when a syphilitic child is born with an unusually large and distended abdomen.

Archiv. für Gynaekologie, Berlin

XCIX, No. 1, pp. 1-224. Last indexed February 8, p. 482

84 *Intracranial Hemorrhages in the Newly Born. (Zur Genese und Symptomatologie intrakranieller Blutungen beim Neugeborenen.) H. Abels.
85 Rupture of Amniotic Sac at Seventh Month of Pregnancy Continuing to Term. (Zur Lehre von der Hydrorrhoea uteri gravidi amnialis.) S. Gottschalk.
86 *The Blood-Changes in Eclampsia and Pregnancy Kidney and Their Importance for Treatment. (Blutveränderungen bei der Eklampsie und Schwangerschaftsniere im Gegensatz zur normalen Schwangerschaft und Massregeln die sich daraus für die Therapie ergeben.) A. Dienst.
87 Serodiagnosis of Pregnancy. (Zur biologischen Diagnose der Schwangerschaft.) M. Henkel.
88 Premature Puberty. (Vorzeitige Menstruation, Geschlechtsreife und Entwicklung.) J. Lenz.
89 Metabolism in Osteomalacia. (Stoffwechselversuche bei Osteomalacie.) L. Zuntz.
90 Toxicity of Hemorrhage After Tubal Abortion. (Giftigkeit und Gerinnungsverzögerung des intraperitonealen Blutergusses nach Tubenruptur.) H. Els.
91 Uterine Cancer After the Menopause. (*Postklimacterisches* Myosarkom des Uterus.) M. Ogorek.

84. **Intracranial Hemorrhage During Delivery.**—Abels reports two cases and comments on the resemblance of the symptoms to traumatic tetanus. Both infants had tonic convulsions, symmetrical and elicited by external influences, while there were no other appreciable symptoms of cerebral hemorrhage. The fontanels bulged a little and the fluid on lumbar puncture was blood-stained, but the most important differential feature was the way in which the spasm spread, and the absence of rigidity of the back of the neck and opisthotonos. The trismus was noticed almost immediately after birth, earlier than is the rule with tetanus, and it was intense. In the second infant, left abducent paralysis was a special feature of the clinical picture. Both infants refused to nurse and the nervous symptoms developed the second day.

86. **The Blood-Changes in Eclampsia.**—Dienst found on examination of the blood of forty-two women with eclampsia, six with pregnancy nephritis and thirty-five normal pregnant women, that the proportion of albumin in the blood-plasma was much below normal, the deficiency extreme in the pathologic cases. The serum globulin is lacking while the fibrinogen is found in excess. The result is a deficiency in antithrombin; this allows the blood to become overladen with thrombin, and the excess of thrombin in the blood he regards as the cause of eclampsia and pregnancy kidney. The emunctories become insufficient owing to disturbances in their circulation. This leads to the flooding of the organism with fibrin ferment and fibrinogen with consequent further damage. Prophylaxis and treatment should aim to regulate the circulation by relieving the cramp of the vessels induced by the excess of fibrin ferment. For this narcotics are needed, and this explains the benefit from Stroganoff's continuous sedative treatment of eclampsia. Venesection is also useful, relieving the stasis of blood by the sudden reduction of the blood-pressure and drawing off some of the disturbing elements in the blood. The *placenta produces fibrin ferment and hence it is best to deliver* the woman, without waiting too long, when it can be safely done. The longer we wait the more the kidneys are being

injured. The kidney changes in eclampsia are by no means so harmless as generally assumed. Acid drinks promote produc*tion of antithrombin and hence are useful in prophylaxis of* eclampsia and pregnancy kidney and also of postoperative thrombosis, especially after hysterectomy for myoma. The uterus mucosa seems to produce antithrombin and its removal leaves the patient unprotected against thrombosis. This view is sustained by the old experience that myoma patients are peculiarly liable to embolism.

Beiträge zur klinischen Chirurgie, Tübingen

December, LXXXII, No. 2, pp. 291-474

92 *Cystic Disease of the Adrenals. (Zur Kenntnis und Operation der Struma suprarenalis cystica haemorrhagica.) H. Küttner.
93 *Severe Roentgen-Ray Burns. (Zur Klinik und Histologie schwerer Röntgenverbrennungen.) E. Pagenstecher.
94 Resection of the Liver. (Leberresektion.) H. Lindner.
95 *Bone Tumors of Thyroid Origin. (Knochentumoren thyreogener Natur.) K. Kolb.
96 *Thrombosis and Embolism After Appendicitis Operations. P. Bull.
97 Influence of Gastric Juices on Other Living Tissues. (Einfluss der Magensäfte auf lebende Organgewebe bei gesundem oder gestörtem Peritonealüberzug.) C. Lieinl.
98 *Access to Spine Through the Peritoneum. (Erfahrungen* über den transperitonealen Weg bei Operationen an der Wirbelsäule.) S. Jourdan.
99 The Thymus with Exophthalmic Goiter. (Zur Histologie des Basedowthymus.) R. Bayer.
100 Sarcoma of Tunica Vaginalis. (Sarkom der Scheidenhaut des Hodens und des Samenstranges.) R. Bayer.
101 Echinococcus Disease and Serodiagnosis. A. Welter and E. Sonntag.
102 *Medical *Study Tour to America in 1912.* H. Gebele.

92. **Cystic Adrenal Successfully Removed.**—Küttner reports a case of an extremely large blood-cyst filling the entire upper abdomen in a woman of 43 with seven children. Tests of kidney functioning revealed two ureters on each side and that all were functioning normally. The large tumor was back of the peritoneum and its removal was facilitated by tapping, releasing a quart of brownish fluid. The patient convalesced rapidly although the operation had been long and tedious on account of adhesion of the cystic adrenal to adjacent organs. He has found records of eleven similar cases in the literature, three of which were necropsy findings; the others were given operative treatment, with recovery of five of the patients.

93. **Roentgen-Ray Burns.**—Pagenstecher describes two cases and gives illustrations of one. The burn was on the abdomen and extremely painful, still 10x6 cm. in size, by the end of the fifth month. The burn was then excised down to the fascia, far into sound tissue, and the fascia freshened. The defect was covered with Thiersch flaps but healing was not complete until three months later. The pains ceased with the operation and he advises early extensive excision far into sound tissue.

95. **Bone Tumors of Thyroid Origin.**—Kalb remarks that all sarcoma-like tumors in the bones, especially in the skull, should suggest the possibility of metastasis of thyroid tissue. He recently encountered a case of the kind in an unmarried woman of 75 who had had a goiter removed seven years before. Three months ago she noticed a small tumor on the left side of her skull. As it grew in size it was assumed to be a sarcoma and was removed. It projected inward as far as outward and a patch of the dura had to be removed with it. The woman died the next day and histologic examination of the tumor revealed it to be of thyroid structure. Several small similar nodules were found in the lungs.

There had been no signs of pressure on the brain notwithstanding the deep depression in the brain substance caused by the protrusion inward of the tumor. An exploratory excision would have revealed the true nature of the tumor, and it should never be omitted in dubious cases. If it had been done in this case, an operation would not have been considered as the tumor was causing no disturbance. In the fifty-nine cases compiled by Regensburger in 1911, the site was in the skull in twenty-five; in the parietal bone in nine. There was a history of local trauma in nine cases. In one in this group a girl of 13 had a cystic tumor in the frontal bone removed; at 18 a goiter required operative treatment, and at 20 a tumor developed at the site of the operation in the frontal bone. It proved after its removal to be of thyroid structure. Cancer is spread by the lymph but this thyroid metastasis seems to *occur by way of the blood. An accessible simple thyreogenic* tumor should be removed as soon as possible when it can be conveniently done. If left unmolested the ultimate outcome is always fatal but the tumor grows so slowly that long survivals are possible. Thirteen patients lived a year or two, seven for two to four years and seven for from five to seventeen years. The thyroid is not invariably enlarged in these cases but it generally is. After the skull, the spine is most frequently the seat of the tumor and next the long bones.

96. **Thrombosis After Appendicectomy.**—Bull found evidences of thrombosis in 11.7 per cent. of 188 private patients after appendicectomy, and pulmonary embolism developed in fifteen of these twenty-two patients, two of whom succumbed. His analysis of the facts observed seems to demonstrate that the thrombosis is the result of mechanical factors affecting veins that are below par from varicose changes. After the age of 20 very few people are entirely free from thickening of the walls or varicose changes in some of the veins in the legs or pelvis. These veins manage to get along without trouble under ordinary conditions, but the sudden and great changes in the circulation inevitable with a laparotomy upset the precarious balance, especially when there are superposed factors such as local pressure, infection, hemorrhages, injury from the anesthetic and absorption of devitalized scraps of tissue. Postoperative thrombosis develops at the same points where thrombosis occurs without an operation and without infection. The thrombi are formed primarily of platelets, which confirms again their mechanical origin. Thrombosis from phlebitis can be followed back to the field of operation, but thrombosis of mechanical origin may develop at remote points. Bull urges careful search for thrombosis at all necropsies soon after laparotomy.

102. **Medical Impressions of America.**—Gebele compares the medical schools of America with those of Germany, saying that the students unquestionably have better opportunity here to perfect themselves in operative surgery, and the opportunities for experimental surgery are unsurpassed. He agrees with F. v. Müller that animal experimentation scientifically carried on is not brutalizing but rather deepens one's respect for the mystery of life. He regards it as a great defect in American hospitals that the medical chief of the hospital changes often, several physicians holding the office in turn. Gebele says that American surgeons can get better results than surgeons elsewhere as American patients consent more readily to an operation and thus the surgeon gets them at an earlier stage of the affection.

Berliner klinische Wochenschrift

116 Trypanosomiasis with Symptoms of Sleeping Sickness. (Menschliche Trypanosomiasis mit Schlafkrankheitssymptomen aus Portugiesisch Ostafrika, verursacht durch Trypanosoma rhodesiense, und über Lumbalpunktatsbefunde, insbes. die Nonne-Apeltsche Phase I Reaktion, bei Schlafkrankheit.) H. Werner.
117 *Difficulties in Differential Diagnosis in Gynecology. A. Sippel.
118 Diagnosis of Bronchostenosis. O. Jacobson.
119 *Temperature of Children. (Normale Körpertemperatur der Kinder und ihr Verhalten bei Bewegung und Ruhe.) D. Fraenkel.
120 Technic for Roentgen Moving Pictures. F. M. Groedel.
121 High-Frequency Current in Therapeutics. E. F. Schurig.
122 The Support of the Foot. (Zur Frage der Stützpunkte des Fusses beim Gehen und Stehen.) F. Momburg.
123 Hypersusceptibility to Arsenic. (Beobachtungen über Arsenüberempfindlichkeit.) M. Kaufmann.

114. **Diphtheria.**—Braun emphasizes that the main point in the eradication of diphtheria lies in prophylaxis and early treatment, and that both can be effectually accomplished with comparatively slight additional expenditure. For this there should be a systematic organization of means to stamp out the disease and the entire profession should work together for this purpose.

117. **Differential Diagnosis in Gynecology.**—Sippel discusses the too facile diagnosis of hysteria to explain disturbances in the internal female genitals for which really there is some, possibly minute, organic cause. On of his patients had passed through the hands of eleven physicians and had been treated for assumed gastric ulcer, for gall-stones, neuralgia, etc., without relief and had been dismissed as a hysteric. The trouble was finally traced to an epigastric hernia in the linea alba which was readily corrected. Displacement of an ovary with venous congestion may cause disturbances ascribed to hysteria. On the other hand sound ovaries have been removed when the trouble was in the appendix or sigmoid flexure. The persistence of disturbances after the operation labels them as of hysteric origin unless the true cause is discovered. A frequently overlooked source of pain is posterior parametritis, a painful thickening and stretching of one or both sacro-uterine ligaments; this is only to be discovered by palpation, possibly only through the rectum. He has cured many of these alleged hysterics by systematic stretching of the ligaments with the colpeurynter. His experience warns expressly against diagnosing hysteria in case of pains in the female genital sphere. It is easy to distinguish between hysteric pain and pain due to an actual organic lesion by putting the patient under the influence of an anesthetic. If the pain is of hysteric origin, that is, originating in the psychic sphere, it must subside when the consciousness is shut off. In dubious cases, therefore, he induces general anesthesia until the consciousness is lost and the reflex excitability reduced. He then seeks to elicit reflex movements by acting on the painful points. If he can elicit reflex movements this shows that the trouble is a local one and not of psychogenic origin. He has found this measure of the greatest differential aid in dubious cases. Even when organic disease is recognized, it may be difficult to locate it. In one case a teratoma of the left ovary simulated gestation in the horn of the uterus. There were no circulatory disturbances in the tumor; it had the shape of a pregnant uterus and there was ossification deceptively simulating the back and head of a six-months fetus, even to a groove suggesting the sagittal suture. The diagnosis in this and in similar cases would have been facilitated if the pelvis had been raised and the examination done under general anesthesia. Raising the pelvis will be found a most valuable aid in differentiating gynecologic conditions.

119. **Temperature of Children.**—Fraenkel was surprised to find considerable fluctuations in the temperature of apparently healthy children. Exercise sent the temperature up while it declined to the normal during repose. These changes and temperature were independent of the outdoor temperature. In neuropathic children the fluctuations were greater. No difference between the behavior of the temperature was noticed between the children giving a positive or a negative reaction to tuberculin. The normal temperature during repose is seldom above 37.2 C. in the rectum. Of the 163 children examined 113 gave a positive reaction to tuberculin. The tests were made at the children's sanatorium at Borgdorf near Berlin.

Deutsche Zeitschrift für Chirurgie, Leipsic

January, CXX, Nos. 5-6, pp. 395-610

124 Pyelitis. (Zur Pathogenese und Klinik der Nierenbeckenentzündungen.) A. Lindemann.
125 Perforation of Gastric Ulcer. (Ueber das akut in die freie Bauchhöhle perforierende Magengeschwür.) A. Wagner.
126 Catgut. (Zur Katgutfrage.) P. Wolff.
127 Experimental Research on Ischemic Paralysis and Contracture. H. F. Kroh.
128 Alcohol in Surgical Sterilization. (Ueber die Alkoholdesinfektion.) Y. Ozaki.
129 Experimental Research on Surgery of Heart Valves. (Herzklappenchirurgie.) E. Schepelmann.
130 Technic for Suture of Vessels. (Neues Verfahren zur Gefässvereinigung.) S. Porta.
131 Development and Retrogression of Lymph-Nodes. (Kritische *Bemerkungen zu den kritischen und experimentellen Untersuchungen* über das Entstehen und Verschwinden von Lymphdrüsen.) C. Ritter.

Medizinische Klinik, Berlin

February 2, IX, No. 5, pp. 161-199

132 Non-Operative Treatment of Cancer. (Die nichtoperative Behandlung des Krebses nach den Grundsätzen des Heidelberger Samariterhauses.) R. Kafemann.
133 *Fatalities After Belt Constriction and Spinal Anesthesia. (Im Anschluss an die Momburgsche Blutleere und an Lumbalanästhesie aufgetretene Todesfälle.) C. Sternberg.
134 Technic for Examination of the Blood. (Praktische Winke zur Blutuntersuchung.) L. Zapf.
135 *Decompressive Measures with Choked Disk. (Druckentlastende* Eingriffe bei Stauungspapille.) R. Hessberg.
136 Atony and Ptosis of the Stomach. L. Disqué.
137 Appendicitis from Oxyuris. (Die Wurmfortsatzentzündung ex oxyure.) H. J. Rheindorf. Commenced in No. 4.
138 Structure of Retina in Mammals. (Die Stäbchen und Zapfen der Wirbeltiere.) V. Franz.

133. **Fatalities After Belt Constriction and Spinal Anesthesia.**—Sternberg gives the details of a case of obstetric hemorrhage arrested by Momburg's belt constriction. The woman died six days later and necropsy revealed fibrinous peritonitis, old purulent endometritis and extreme meteorism. It was evident that the peritonitis was the result of the stretching of the intestines by the meteorism, and he regards this as the direct consequence of injury of the intestine from the constriction. The part of the intestine compressed and thus rendered ischemic was injured to such an extent as to entail the meteorism in the anemic patient. In six other cases death followed suddenly during or soon after an operation under spinal anesthesia with tropacocain or novocain; status lymphaticus was evident in two of the patients. Michelsson has compiled twenty-five fatalities after spinal anesthesia with tropacocain and nine after novocain, and cites statistics ranging from Hohmeier's 1:200 to Tomaschewski's 1:17,847, the average being 1:3,500. Sternberg's figures are 1:295 and 1:442 in 1,770 applications of spinal anesthesia at Brunn.

Münchener medizinische Wochenschrift

February 4, LX, No. 5, pp. 225-280

139 *Surgery of Common Bile-Duct. (Zur Chirurgie des Choledochus.) v. Hofmeister.
140 *Thyroidism and Tuberculosis. (Thyreose und Tuberkulose.) L. Saathoff.
141 *Simple Test for Urobilinogen. (Eine klinisch einfache Methode quantitativer Urobilinogenbestimmung.) Flatow and Brünell.
142 Improved Technic for Cultivating Anaerobes. (Vereinfachung der Anaerobenzüchtung nebst Angabe eines praktisch *verwertbaren neuen Kulturverfahrens.)* W. Lindemann.
143 Serodiagnosis of Syphilis. (Zur Wertschätzung der Brendel-Müllerschen Reaktion.) H. C. Plaut.
144 **Diphtheria Bacilli in the Urine.* W. Beyer.
145 Indications for and Results of Tampon Drainage of Abdominal Cavity. H. Küster.
146 Sterilization of the Unfit. *(Zur Frage der Sterilisierung aus* rassehygienischen Gründen.) A. Hegar.
147 Lithotripsy or Lithotomy. Feiber and Marc.
148 Familial Fetal Chondrodystrophy. H. Chiari.
149 Radium Loaned to Practitioners. (Abgabe von Radiumpräparaten aus öffentlichen Stationen zur Behandlung privater Kranker.) E. Schiff.
150 *Syringe Rented Instead of Sold Outright. (Ein neuer Amerikanismus in der Medizin.) F. Crämer.
151 Hematology in Service of Neurology. Naegeli. *Commenced* in No. 4.

139. **Surgery of the Common Bile Duct.**—Hofmeister gives the details of five typical cases to illustrate the complex and dangerous consequences which are liable with an old gall-

stone affection. These cases were encountered during the last eight weeks and they suggested some new points in technic which he thinks are liable to prove of great service. In one case the liver showed signs of incipient degeneration from the inflammatory occlusion of the bile duct; in another the gall-bladder had been entirely destroyed by secondary suppuration and an encapsulated focus of bile was found under the liver and under the small pelvis. One patient, a woman of 67, was operated on for gall-stones in the common bile duct in 1898, 1900 and 1904. Then followed cicatricial stenosis of the papilla and the symptoms required further duodenotomy, drainage of the hepatic duct and also of the common bile duct into the duodenum. There was no jaundice for over eight years, notwithstanding the presence of stones in the bile duct. He thinks that the apparent recurrence of gall-stones in this case was due to overlooking some of the new-forming calculi. He was careful to dilate systematically the papilla, which was easily done with urethra bougies after transverse slitting of the duodenum to admit the bougie. The larger sizes brought out small concrements with them, and the duct was brushed out with a gauze wick. To avoid concrement formation around suture threads, he brings one long end of each thread out through the wound, inside a drainage tube. They are thus readily removed when the threads cut through, which usually occurs in ten or fourteen days. He drains the common bile duct with a rubber tube 7 or 8 mm. thick projecting for 3 or 4 cm. into the duodenum, the other end brought out through the wound in the skin. This holds the passage open as an elastic retention bougie, while it also relieves the intestine until normal bowel movements are restored. From 100 to 150 c.c. of digestive juices were voided through this tube in twenty-four hours. The tube also permits medication and feeding without burdening the stomach. He thus gave his patient coffee, tea, brandy, milk, eggs, castor oil, etc., and reinjected the digestive juices.

140. **Thyroid Poisoning and Tuberculosis.**—Saathoff applies the term thyreosis to the group of affections for which excessive or perverted functioning of the thyroid gland is responsible. Exophthalmic goiter is a subordinate syndrome in this great group. He has been investigating, in the patients at his sanatorium for internal and nervous diseases, the connection between this thyreosis and tuberculosis. His material is unusual as it included no advanced cases of tuberculosis. In forty-five cases of pronounced thyreosis including six with exophthalmic goiter, only one was free from tuberculosis and this one had long recovered from a severe form of Basedow. Only two in the whole group had tubercle bacilli. In his forty-four tuberculous patients, nearly all men, none had symptoms of thyroid poisoning. The tuberculous infection is probably the primary but the thyroid disturbances may set up a vicious circle. His experience indicates that uncomplicated exophthalmic goiter is not accompanied by fever. It further suggests that the blood-picture which has been regarded as characteristic for exophthalmic goiter is merely the expression of the tuberculosis in the first or second stages. He made a point of applying tests for tuberculosis in all the thyreosis cases, and giving treatment as for tuberculosis. The importance of this finding is evident, as when in doubt whether to ascribe the symptoms to thyroid poisoning, the discovery of even the smallest focus of active tuberculosis will confirm the diagnosis. More than this, he exclaims, "How many patients in this class have suffered from the erroneous assumption of neuroses, neurasthenia or hysteria under these conditions; they know they are not well and yet do not seem to have any actual disease." In regard to treatment he insists that the severe forms of exophthalmic goiter, whether they are complicated with tuberculosis or not, belong to the surgeon. When the vicious circle is broken at any one point conditions may begin to right themselves. A vigorous course of treatment for tuberculosis is indicated. If this can be improved, the exophthalmic goiter may subside spontaneously. Good air, abundant food and freedom from care with change of scene for a few months often do wonders for the body, nerves and mind. In all these cases of manifest thyreosis plus tuberculosis, the latter is generally in an early stage with favorable prognosis.

141. **Test for Urobilinogen.**—The test described is based on the staining properties of chromogen, that is, urobilinogen, when in contact with p-dimethylamidobenzaldehyd. Charnes' method is to determine the characteristic stripe in the spectrum, but Flatow has found that comparison with the hemoglobin color scale answers the purpose with sufficient accuracy. The fluid is poured in a colorimeter or wedge-shaped vessel. For the color scale he uses an alkaline solution of phenolphthalein, as he describes in detail.

144. **Diphtheria Bacilli in the Urine.**—Beyer states that he found diphtheria bacilli in the urine in every one of nineteen children examined when they had supposedly entirely recovered from diphtheria. The interval at date of writing was from four to eight weeks up to fourteen weeks and in six of the eight cases in which animals were inoculated with the bacilli they proved virulent. Strict hygiene would require the isolation of the children until the urine was sterile.

150. **Medical Appliance Rented Instead of Being Sold Outright.**—Crämer comments caustically on the methods of the physicians who are pushing their "Enterocleaner," Drs. Brosch and Aufschneider of Vienna. They call their method the "subaqual internal bath." It consists of a two-way catheter with which the intestines are flushed while the patient is in a full bath. The claim is made that the differences in pressure under water are peculiarly important for flushing the bowels. From twenty to thirty quarts of water can be used to rinse the intestines in this way, they say, without any special inconvenience to the patient. The apparatus is patented and it is not sold, but merely rented to physicians who not only have to pay the rent but also to pay an additional premium for each "enterocleaner bath" given. The physician pays 80 marks on receiving the apparatus and an additional 2.5 marks for each "enterocleaner bath." Crämer calls this system of procedure "the introducing of American commercial methods into medicine," and denounces it as a serious blow to medical ethics. All the physicians with whom he has spoken unite with him in condemning such a procedure and hoping that it will find no imitators in Germany.

St. Petersburger medizinische Zeitschrift

January 28, XXXVIII, No. 2, pp. 15-28

152 Diagnosis and Treatment of Chronic Diarrhea. A. Schmidt.
153 Chronic Gynecologic Disease. (Zur Therapie chronische Frauenleiden.) A. Bonstedt.
154 Tracheal Cough. (Ueber Trachealhusten.) M. Buch.

Therapeutische Monatshefte, Berlin

February, XXVII, No. 2, pp. 97-176

155 *Scarlet Fever. (Therapie des Scharlachs.) E. Benjamin.
156 *Autovaccine Therapy of Furunculosis in Infants. L. Harriehausen.
157 *Hygiene of Muscular Weakness in the Back. (Die Pflege des Muskelschwachen Rückens im Spiel- und Schulalter.) F. Göppert.
158 Bactericidal Action of Anion Treatment. (Ueber die biologische — bactericide — Wirkung der Anionenbehandlung.) P. Steffens.

155. **Scarlet Fever.**—Benjamin remarks that in desperate cases the disadvantages of serotherapy are outweighed by the glimmer of a hope from its aid. The antistreptococcus serum may be given in a single large dose and it is possible, he adds, that it might be supplemented by a dose of non-specific serum to enhance its action. In the acute stage of scarlet fever all our measures act only to sustain the defensive powers of the organism. The outcome depends mainly on the heart, and in applying hydrotherapy the heart must be carefully supervised. He says that the temperature should be taken morning and night for five weeks and the ears and urine examined for the same length of time. A diet poor in salt reduces the thirst and thus counteracts the tendency to edema, but no measures that he knows of will guarantee against nephritis. If symptoms indicate uremia, venesection may lead to prompt improvement especially when followed by saline infusion.

Benjamin had his attention called to the unusually mild character of scarlet fever when it occurred in children in the diphtheria ward who had been given an injection of diphtheria antitoxin. On these premises he [illegible] can [illegible]rect antitoxin [illegible] are exaggerated, with enlargement of the lymph-nodes in this region, and expiration is prolonged. Less common but characteristic is the unilateral reduction of the vesicular murmur, especially when associated with other signs of compression of a bronchus. Examination is facilitated by the child's bending its head forward when the back is being percussed or auscultcd and backward when the front of the chest is being examined. He never encountered the sign to which Rilliet called attention, namely, a rhonchus at the point corresponding to the bifurcation of the trachea. A venous murmur above the manubrium when the head is held far back is said to be useful in diagnosis of bronchial adenitis, but he never found it in his cases. Of far greater differential importance is D'Espine's sign; this is the difference in the level at which the whispered voice is propagated to the spinous processes. Normally this is the seventh cervical vertebra, diminishing in intensity downward. When there are swollen lymph-nodes, the sound is heard to the processes of the third or fourth dorsal vertebra. He found this sign always positive when other signs indicated the adenopathy; and invariably negative in children free from intrathoracic lymphadenitis. (This sign was described in The Journal, March 9, 1907, p. 909.) Gesteira says that this technic is in constant use in Brazil and is regarded as the earliest, the most reliable and the most easily applied of all means for revealing the presence of tuberculous processes in the tracheobronchial lymph-nodes.

Semana Medica, Buenos Aires

January 16, XX, No. 3, pp. 125-188

199 Congenital Malformation of the Heart. (Enfermedad de Roger.) P. J. Garcia.
200 *Psychology of Moving-Picture Exhibitions. (Los accidentes debidos al cinematografo.) V. Delfino.
201 Mineral Waters; Natural and Artificial. (Los recientes progresos de la hidrologia cientifica.) V. Delfino.

200. Psychology of Moving Picture Exhibitions.—Delfino has known a number of instances of fatigue of the eyes going on to actual conjunctivitis in a number of persons after moving picture entertainments, but these troubles always have passed away under simple rest of the eyes. The fatigue of the retina is caused by the flickering from the closing and opening of the shutter. The more rapidly this is done the steadier the moving picture, and the less strain on the eyes. The location of the spectator in respect to the picture is also important from this point of view. He also cites some cases of nervous disturbances following entertainments of this kind, alcoholics and neurasthenics being liable to have hallucinations develop afterward. Another feature of these moving pictures is the way in which illusions may be generated. Professor Ponzo of Turin states that he actually felt the smell of new-mown hay in his nostrils at the sight of a hay wagon in the pictures, and smelt the ocean air when looking at a ship making its way in midocean. He also felt a brief sensation of dampness and chill when watching the pictures of a tropical rain. He and his pupils made a number of studies in this line of the association between the sense of vision and the generation of illusions. For this moving picture entertainments offer a special opportunity.

Hospitalstidende, Copenhagen

February 5, LVI, No. 6, pp. 129-152

202 Salvarsan Plus Mercury in Treatment of Syphilis. (Behandling af Syfilis med Salvarsan i Forbindelse med Kviksølv.) H. Boas.
203 Porter's Method of Correcting Faulty Position of Fetal Head. L. Slamberg.

Nordiskt Medicinskt Arkiv, Stockholm

XLV, Medical Section 2. Last indexed Oct. 26, 1912, p. 1586

204 Behavior of the Hydrochloric Acid in the Gastric Juice During Kidney Disease. (Zum Studium des Verhaltens der Salzsäure im Magensaft bei Nierenentzündungen.) C. Sebardt. Commenced in No. 1.
205 Melanosis of the Mucosa of the Large Intestine. (Melanose der Dickdarmschleimhaut.) F. Henschen.
206 *Prevalence of Diabetes Mellitus in Scandinavian Countries. (Zur Kenntnis von der Ausbreitung der Zuckerkrankheit und deren Häufigkeit in den nordischen Ländern.) K. A. Heiberg.
207 Athletics and Dilatation of the Heart. (Sport und Herzdilatation.) S. E. Henschen.

206. Diabetes in Scandinavian Countries.—Heiberg's statistics confirm the constant increase in the prevalence of diabetes in the last decades.

Norsk Magazin for Lægevidenskaben, Christiania

February, LXXIV, No. 2, pp. 153-288

208 Ophthalmologic Notes. (Dioptriernes anvendelighet ved enkelte og sammensatte optiske systemer.) (Brytningskoefficienterne for øiets medier.) H. Schiøtz.
209 Mortality from Tuberculosis in the Insane Asylums and Prisons of Norway. (Tuberkulosedødeligheten i Norges lukkede anstalter.) M. Søegaard.
210 *Aspiration of Milk in Nursing. (En merkelig dødsaarsak hos et spædbarn.) J. Hjort.
211 *Danger from Explosion Gases in Mining. (Forgiftningsfarer ved minering under grubedrift.) T. Sommerfeldt.
212 *Extra-Pyramidal Paralysis. (Ekstrapyramidale motoriske affektioner.) G. H. M. Krohn.

210. Aspiration of Mother's Milk.—The child was a young healthy babe and by the end of two hours after suckling there was considerable cyanosis which gradually increased while the respiration seemed difficult. Under artificial respiration and stimulants the condition improved and the child slept apparently normally, the cyanosis less intense, but the condition became aggravated again during the night sleep and death followed a few hours later. Necropsy revealed the presence of milk in the lower air passages.

211. Injury From Explosion Gases in Mines.—Sommerfeldt refers to the injury from the breathing of gases generated by an explosion of blasting powder in a confined space. He has had a number of cases of this kind, including a mild case in his own person. He describes fifteen cases in detail and emphasizes the necessity for providing for ample ventilation after an explosion. The main reliance in treatment is on artificial respiration and symptomatic measures. The pulse becomes extremely rapid and unstable, indicating that the heart and circulation have been seriously affected, which suggests the importance of heart tonics and stimulants. The great danger from the toxic action of the gases is a sudden total loss of consciousness, liable to come on without warning and the fall may have fatal results. The condition then is very much like that of general anesthesia under ether or chloroform. The miners say they are "drunk." In one case the miner's arm was run through a support and when he dropped unconscious he hung from this support. Obstinate catarrhal affections may be left afterward in the throat and bronchi. This is evidently a sulphuric-acid poisoning. In one case the irritation from this cause would have induced fatal suffocation if an air pump had not been at hand. In his own person his pulse was 120 and as he got into bed it ran up to 160. He analyzes the symptoms and course in detail, remarking that the condition for a few days afterward is like that after a debauch.

212. Extra-Pyramidal Motor Affections.—Krohn discusses the motor affections from organic lesions in the central nervous system outside of the pyramidal tract. The clinical pictures may include apraxia, cerebellar disturbances, loss of equilibrium from lesions in the vestibule, and rigidity and tremor from lesions of the central ganglia or the rubrospinal tract. This latter group includes Wilson's progressive lenticular degeneration with its tremor, rigidity, dysphagia and dysarthria and the unstable psychic status. All the syndromes can be classified in three groups: peripheral, pyramidal and extrapyramidal affections, and he reports in detail two cases of the latter with necropsy and describes the mechanism involved. Paralysis agitans is a typical example, he says, of an extrapyramidal affection.

Ugeskrift for Læger, Copenhagen

January 30, LXXV, No. 5, pp. 181-228

213 Albumin in Sputum of Not Much Early Diagnostic Value. (Om Albuminstofbestemmelse i Ekspectorat.) E. Hempel-Jørgensen.

February 6, No. 6, pp. 229-290

214 Further Experiences with Absorbed Light Rays in Treatment of Internal Tuberculosis. (Behandling af intern Tuberkulose med absorberet Lysenergi.) T. Brinch.
215 Scabies. (Fnatkur ad modum Lundager.) Fiedler.

The Journal of the
American Medical Association
Published Under the Auspices of the Board of Trustees

Vol. LX, No. 12 CHICAGO, ILLINOIS March 22, 1913

TERILIZATION, BOILING AND PASTEURIZATION OF MILK

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The term, "sterilization," should never be applied to the processes used in the preparation of milk for the feeding of infants, because the milk is never rendered bacteriologically sterile by them. The term, "pasteurization," as it is ordinarily used, is indefinite and misleading. It should always be stated at what temperature the milk is heated and how long it is kept at this temperature; otherwise, it means nothing.

THE CHANGES PRODUCED IN MILK BY HEAT

Appearance, Taste and Smell.—A well-marked scum, or pellicle, develops on the surface of boiled milk. This may begin to develop at as low a temperature as 122 F. (50 C.) (Pfaundler and Schlossmann).[1] This is due to the disassociation of the casein compounds as the result of drying. Its composition is:

Fatty matter	45.42 per cent.
Casein and albuminoid	50.86 per cent.
Ash	3.72 per cent. (Rosenau).[2]

Changes in the taste and smell may develop at as low a temperature as 158 F. (70 C.) (Sommerfeld),[3] but are usually not marked unless the milk is brought nearly to the boiling point. Prolonged boiling changes the color toward brown, the amount of change depending on the duration of the boiling. The change in color is due to the caramelization of the sugar. Heating at 150 F. (65 C.), or over, for half an hour, materially delays or entirely prevents the rising of cream. This is because the normal agglutination of the fat droplets is broken down and they are more homogeneously distributed throughout the fluid (Rosenau).[2]

Composition.—When milk is boiled there is a partial fixation of the calcium salts, which are probably precipitated in the form of tricalcium phosphate (Kastle and Roberts).[4] There is also a precipitation of the magnesium salts (Rosenau).[2] There is a diminution in the amount of organic and an increase in that of inorganic phosphorus (Rosenau). About one-third of the citric acid is precipitated in the form of tricalcium citrate (Pfaundler and Schlossmann).[1] About 90 per cent. of the carbon dioxid and 50 per cent. of the oxygen and nitrogen are also driven off (Pfaundler and Schlossmann). There is also a certain amount of decomposition of the compounds of casein into casein and its base. The casein is rendered less easy of coagulation by rennin and is more slowly and imperfectly acted on by pepsin and pancreatin (Rosenau). It is difficult to understand why this is so, because the precipitation of the soluble albumins, which act as protective colloids (Alexander and Bullowa),[5] by boiling, should make the coagulation of the casein easier. The curd produced by the action of acids (Pfaundler and Schlossmann) and rennin (Rosenau) is, moreover, softer and more flocculent than that in raw milk. The soluble albumins are entirely precipitated (Sommerfeld).[3]

There are no available data as to the temperature at which the changes which take place in boiled milk first appear, except in the case of the soluble albumins. Sommerfeld quotes Steward to the effect that heating at 149 F. (65 C.) for thirty minutes diminishes them, and that thirty minutes at 176 F. (80 C.) completely destroys them. Schlossmann[6] found a slight diminution in the solubility of the albumins at 158 F. (69 C.) and Solomin[7] states that there is an "apparent" beginning of clotting of milk albumin by heating at 140 F. (60 C.) for fifteen minutes, but he is not sure whether or not it is really the lactalbumin which is involved. It is not far wrong to conclude, therefore, with Hippius,[8] that the heating of milk at 149 F. (65 C.) for thirty minutes causes no noteworthy changes in the chemical composition of the milk.

Ferments.—According to Hippius,[8] the proteolytic ferment of cow's milk is unchanged by heating for one hour at 140 F. (60 C.) or for one-half hour at 149 F. (65 C.), but is destroyed by boiling, while the oxidizing ferment is unchanged by heating, even for several hours, at from 140 F. (60 C.) to 149 F. (65 C.), but is destroyed by one hour at 169 F. (76 C.). Kastle and Porch[9] have shown, moreover, that the peroxidases are somewhat increased by heating at 140 F. (60 C.).

Bactericidal Action.—The bactericidal power of milk is still considerable after continued exposure to temperatures of from 140 F. (60 C.) to 149 F. (65 C.), but is destroyed by boiling (Hippius). The alexins are affected in the same way (Von Behring).[10]

Precipitin Reaction.—The heating of milk, even for one hour at 248 F. (120 C.) in the autoclave, does not diminish the precipitin reaction (Hippius).

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1. Pfaundler and Schlossmann: The Diseases of Children, 1908, i, 303.
2. Rosenau: Bulletin 56, Hyg. Lab., Pub. Health Service, 1909; Circular 153, U. S. Dept. Agric., Bureau of Animal Industry, 1910.
3. Sommerfeld: Handbuch der Milchkunde, J. F. Bergman, Wiesbaden, 1909.
4. Kastle and Roberts: Bulletin 56, Hyg. Lab., Pub. Health Service, 1909.
5. Alexander and Bullowa: Arch. Pediat., 1910, xxvii, 18.
6. Schlossmann: Ztschr. f. physiol. Chem., 1896-7, xxii, 197.
7. Solomin: Arch. f. Hyg., 1897, xxviii, 43.
8. Hippius: Jahrb. f. Kinderheilk., 1905, lxi, 365.
9. Kastle and Porch: Jour. Biol. Chem., 1908, iv, 301.
10. Von Behring: Therap. d. Gegenw., 1904, N. F., vi, 1.

Bacteria and Their Products.—It has been proved by many investigators that the typhoid bacillus, the diphtheria bacillus, the dysentery bacillus and the cholera vibrio, as well as the other pathogenic non-spore-bearing organisms most often found in milk, are destroyed in milk by heating at 140 F. (60 C.) for twenty minutes (Rosenau) and at higher temperatures for shorter lengths of time. Butyric acid bacteria are destroyed at from 212 F. to 216 F. (100 C. to 102.2 C.) for from one to two minutes (Sommerfeld). The spores of the peptonizing bacteria are much more resistant, however, some of them withstanding boiling for one hour (Sommerfeld).

Since the investigations of Flügge,[11] in 1894, who found spore-bearing peptonizing bacteria developing in milk heated at 158 F. (70 C.) for thirty minutes and forming highly toxic substances therein, it has been very generally believed that the destruction of the lactic acid bacteria by pasteurization resulted in the unhindered growth of undesirable, proteolytic bacteria, which produced toxins and other poisonous products, and that pasteurized milk putrefied rather than soured. It has also been supposed that bacteria multiply more rapidly in pasteurized than in raw milk. Ayers and Johnson[12] recently found, however, that many acid-forming bacteria are not destroyed below 168 F. (75.6 C.) and that, in consequence, pasteurized milk turns sour in the same way as raw milk, although the process is somewhat delayed. They found that there were fewer peptonizing bacteria in pasteurized than in raw milk and that they did not multiply rapidly. The numerical relations of the acid-forming bacteria, the peptonizing (putrefactive) bacteria and the inert bacteria were practically the same as in clean, raw milk, and the acid development in an efficiently pasteurized milk was about the same as in clean, raw milk. They also found that the rate of multiplication of bacteria depended on the number of bacteria present in the milk. The rapidity of multiplication was the same in pasteurized as in raw milk containing the same number of bacteria and more rapid in both than in dirty milk.

It is generally believed that the heating of milk, even to boiling, has no effect on the toxic products of bacterial growth which it may contain. This belief is in part justified and in part unwarranted. The true bacterial toxins are thermolabile, many of them being rendered inert at 140 F. (60 C.). Bacterial endotoxins may be very resistant, however, that of the *B. coli communis* being, for example, unaffected by fifteen minutes at 272 F. (134 C.). There is no doubt that the spore-bearing organisms can set up putrefactive and proteolytic changes in milk and produce poisons as the result. The nature of these poisons is not known. Their connection with "milk poisoning" has been inferred, not demonstrated. Moreover, as far as is known, the true bacterial toxins play but little, if any, rôle in milk poisoning (Rosenau).

THE EFFECTS OF THE HEATING OF MILK ON ITS DIGESTIBILITY AND ON ITS VALUE AS A FOOD FOR INFANTS

Experiments in Artificial Digestion.—The evidence derived from artificial digestion experiments as to the comparative digestibility of boiled or sterilized and raw milk is inconclusive: there is little or none as to that of pasteurized and raw milk. The casein is rendered less easy of coagulation by rennin, but the curd produced by the action of acids (Pfaundler and Schlossmann) and rennin (Rosenau) is softer and more flocculent than that in raw milk. De Jager[13] concluded that raw milk was the more easily digested, while Fleischmann[14] decided that sterilized milk was more easily acted on by the digestive ferments than raw milk. Jemma[15] and Michael[16] found that sterilization did not impair the digestibility of milk.

Animal Experiments.—Almost all experiments agree in showing that all animals do better when fed on the raw than on the cooked milk of their own species. Von Brünning[17] has collected reports of experiments on feeding animals with the raw and cooked milk of another animal. The results were the same in all, namely, that, when fed on the milk of another animal, the young animals did better when the milk was cooked than when it was raw. Raudnitz[18] fed dogs on raw and on sterilized milk and found that the fat and nitrogen were better utilized with the raw than with the sterilized milk.

Experiments on Babies.—Finkelstein[19] fed six babies with raw and with cooked human milk. He gives no data as to these experiments, but states that the babies did not do nearly so well on the cooked milk. He also quotes Moro as having shown that the results with cooked human milk are not so good as those with raw human milk. It is evident, therefore, that babies react to the heating of the milk of their own species in the same way as other young animals.

Very few metabolism experiments have been done in babies as to the relative utilization of raw and cooked cow's milk and these are incomplete and fragmentary. They show, however, little difference in the results with the two foods. Müller and Cronheim[20] found that the calcium was less well utilized when the milk was cooked, but Finkelstein says that their methods are open to criticism. Krasnogorsky,[21] on the other hand, states that the iron is better utilized from cooked than from raw milk.

It has been generally believed in this country until very recently that babies fed continuously on cooked milk do not thrive so well as those fed on raw milk and that the cooking of milk predisposes to the development of the diseases of nutrition, while physicians in Europe have believed that babies thrive as well, or perhaps better, on cooked than on raw milk. There is, however, relatively little evidence on either side. Finkelstein[19] studied sixty well and fifty-three sick babies and concluded that there was no evident difference in the results with raw and with cooked milk and that neither the gain of the healthy nor the healing of the sick was visibly aided by raw milk. He quotes Czerny as having obtained the same results and states on the authority of an oral communication that the experiment of feeding raw and cooked milk to large series of babies had been tried for three years at the Waisenhaus in Stockholm and that no difference in the results from the two methods had been noted. Variot[22] states that during the twelve years ending in 1904 more than 3,000 infants were fed at the dispensary of the *goutte de lait* of Belleville with milk heated at 226 F. (108 C.) and that rachitis did not develop in any, but that anemia was not uncommon. Scurvy *is not mentioned.* Carel[23] *states that of* 210 infants belonging to the laboring class of Paris fed on raw milk, 31.8 per cent. developed rickets, while of 373 infants of the same class fed on cooked milk only 15 per cent. developed rickets and none scurvy. Sill[24] of New York reports, on the other hand, that he found signs of rickets or scurvy in 97 per cent. of 179 consecutive cases of infants fed on pasteurized or sterilized milk. The statistics of the French observers are open to considerable doubt, however, because, unless the French infants of the hospital class are very different from the American. 80 per cent. of them show signs of rickets, no matter on what they are fed, while scurvy was not sufficiently well known in France at that time to be recognized unless of a most extreme type.

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[11] Flügge: Ztschr. f. Hyg., 1894, xvii, 272.
[12] Ayers and Johnson: Bulletin 126, U. S. Dept. Agric., Bureau of Animal Industry.
[13] De Jager: Centralbl. f. d. med. Wissensch., 1896, xxxiv, 145.
[14] Fleischmann: Quoted by Doane and Price, Bulletin 77 of the Maryland Agricultural Experiment Station, 1901.
[15] Jemma: Dietet. and Hyg. Gaz., 1900, xvi, 83.
[16] Michael: Hyg. Rundschau, 1899, ix, 200.
[17] Von Brünning: Quoted by Finkelstein. See Footnote 19.
[18] Raudnitz: Ztschr. f. physiol Chem., 1890, xiv, 1.
[19] Finkelstein: Therap. Monatsh., 1907, xxi, 508.
[20] Müller and Cronheim: Therap. Monatsh., 1903, xvii, 340.
[21] Krasnogorsky: Jahrb. f. Kinderheilk., 1906, lxiv, 651.
[22] Variot: Compt. rend. Acad. d. sc., 1904, cxxxix, 1002.

It is very difficult to determine what influence the heating of milk, at whatever temperature, has on the development of rickets, because the exact etiology of rickets is at present so obscure. It is probable that heredity, improper hygienic surroundings and improper food all play a part in its production. It is extremely difficult to know in an individual case which is the most important element and almost impossible to determine it in large series of cases. Our present statistics as to the relative frequency of rachitis in those fed on heated and those fed on raw milk are not accurate enough to form the basis of any definite conclusions on this point, because they do not give any accurate data as to the other possible etiologic conditions.

The evidence to prove that the heating of milk produces scurvy is stronger than in the case of rickets, but not at all conclusive, this evidence being the fact that all large series of cases of scurvy show that a considerable proportion of the patients were fed on heated milk, more of them, however, on sterilized, boiled or scalded, than on pasteurized milk. It is impossible to prove, however, that it was the heating of the milk and not the composition of the food which caused the scurvy in these babies. It is evident that when an individual baby is fed on a heated, modified milk it is impossible to know, if scurvy develops, whether it is due in the special case to the heating or to the composition of the milk. It can be only a matter of opinion. A decision can be reached only by the analysis of large series of cases. It may even then be difficult, as is shown by the fact that the series collected by the American Pediatric Society, the largest single series on record, is quoted both for and against the etiologic influence of the heating of milk in the production of scurvy. Further evidence against the heating of milk causing scurvy is that scurvy sometimes develops in the breast-fed and in babies fed on raw milk. Still further evidence are Plantenza's[25] observations that, although scurvy developed more frequently in babies fed on heated milk which was not used at once than on raw milk, it did not develop when fresh milk was heated and used at once.

It has been asserted that the cooking of milk "devitalizes" it and thus renders it a less suitable food for infants. It is presumable that what is meant by "devitalization" is the destruction of the ferments. The point at which this occurs has already been given, showing that they are not injured at temperatures below 150 F. (65 C.). There is no proof, however, that the ferments of milk play any part in the digestion and utilization of the milk, the only apparent foundation for the belief that they do being a statement of Marfan[26] *in* 1901 *that "it is probable that the milk ferments act* as stimulators and regulators of nutrition, and that they are identical in function with the ferments elaborated by the various tissues and are intended to compensate for the deficiency of the internal secretions of the newborn." This statement is founded entirely on analogies and hypotheses and not on experiments or facts.

Cooking of Milk Advised as a Routine Measure.—The boiling and proper pasteurization of milk destroys the ordinary non-spore-bearing pathogenic microorganisms. The bacterial growth in pasteurized milk is the same as in clean, raw milk. The evidence at present available is insufficient to show whether cooked milk is more or less digestible than raw milk, whether babies thrive on it as well as on raw milk and whether or not it predisposes to the development of the diseases of nutrition. Granting that the cooking of milk does make it somewhat less digestible and that its continued use does predispose to the development of the diseases of nutrition, it is evident, nevertheless, that the disturbances which it causes are slight and insignificant in comparison with the diseases caused by milk contaminated with bacteria. All milk, except the cleanest, should, therefore, be cooked before being used as a food for infants.

Pasteurization.—The higher the temperature at which milk is heated, the greater are the changes in its composition. While it is somewhat problematical how much influence these changes have on the development and well-being of the infant, it is the part of wisdom to avoid them as far as is consistent with the attainment of the object of cooking milk, that is, the destruction of pathogenic microorganisms. Pasteurization is therefore preferable to boiling. The temperature of the pasteurization should be, moreover, as low as is possible. Pasteurization at 140 F. (60 C.) for twenty minutes is efficient; lower temperatures are not. This temperature and time are, therefore, the ideal ones. At this temperature there is no change in the taste, odor or color of the milk, no noteworthy changes in the chemical composition are produced, the ferments and bactericidal action are unaffected and bacterial toxins and non-spore-bearing microorganisms are destroyed.

There are three methods of commercial pasteurization in common use: the flash method, the holding method and pasteurization in the bottle. The flash method consists in momentarily heating the milk to a temperature of approximately 170 F. (76.7 C.) by allowing it to flow in a film over heated metal pipes or coils and then at once chilling it. The holding method consists in heating the milk to between 140 F. (60 C.) and 155 F. (68 C.) and then placing the milk in a receptacle where it is held at approximately this temperature for from twenty minutes to an hour. The flash method has been repeatedly shown to be unreliable and should not be employed. The holding method is not so satisfactory as would at first appear, because, while the destruction of the bacteria in a small quantity of milk by heating it at 140 F. (60 C.) for twenty minutes is simple enough, it is very difficult to heat a large volume of milk to a definite temperature and hold it at that temperature for a given period of time. Schorer and Rosenau[27] have shown that under ordinary commercial conditions the temperatures expected were not attained. In their four experiments, two planned for 140 F. (60 C.) and two for 145 F. (62.7 C.), from 99.4 per cent. to 99.9 per cent. of the bacteria were, nevertheless, destroyed. A certain number of pathogenic microorganisms, however, survived. They conclude, therefore, that in order to be safe, pasteurization under commercial conditions should be at 145 F. (62.7 C.) for from thirty to forty-five minutes. Schorer[28] further concludes that the safest method for pasteurization is in the sealed bottle, allowing at least thirty minutes for heating to the temperature of pasteurization and then pasteurizing at 145 F. (62.7 C.) for thirty minutes. He also wisely advises that all commercial pasteurization shall be carried out under official supervision.

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[23] Carel: Le lait stérilisé, Thèse de Paris, 1902-3.

[24] Sill: Med. Rec., New York, 1902, lxii, 1016.

[25] Plantenza: Arch. f. Kinderheilk., 1912, lviii, 155.

[26] Marfan: Presse Méd., 1901, ix, 13.

[27] Schorer and Rosenau: Jour. Med. Res., 1912, xxvi, 127.

It must never be forgotten that the pasteurization of milk does not do away with the necessity of taking care of it and keeping it cold. It is just as important to keep pasteurized milk cold as it is to keep raw milk cold, because pasteurization simply diminishes the number of microorganisms. It does not destroy them entirely.

While it is easier to approach laboratory methods in the home than under commercial conditions, it is wiser to adopt 145 F. (62.7 C.) for thirty minutes as the standard instead of 140 F. (60 C.) for twenty minutes, in order to be sure that the pasteurization is efficient. The changes produced in the milk at this temperature and time are little, if any, greater than at the lower temperature and shorter time.

It is not necessary to have any special apparatus for the pasteurization of milk in the home, as any dish of sufficient size and depth will do. Each feeding should be placed in a separate clean, boiled bottle. The bottle should then be tightly stoppered with non-absorbent cotton and placed in a pail or dish of cold water, the water in the dish being at the level of the milk in the bottle. The dish should then be placed on the stove and heated until the thermometer, suspended in the water, reaches 145 F. (62.7 C.). The dish and its contents should then be taken off the stove and covered with a blanket. It should be allowed to stand for thirty minutes. The bottles should then be taken out, cooled quickly, preferably in running water, and kept in a cold place until used.

There are several pasteurizers, designed for home use, on the market which are more convenient, although no more efficient. That sold by the Walker-Gordon Laboratory is a good one. Another, designed by Dr. R. G. Freeman of New York, although working on a little different principle, is very satisfactory.

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OPPORTUNITIES FOR THE PRESERVATION OF HEARING *

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The opportunities for the preservation of hearing include (1) systematic aural inspection for the detection of objective signs of impairment of the hearing, and (2) the adaptation of the operative technic to include the preservation of the hearing.

SYSTEMATIC AURAL INSPECTION

This scheme of systematic prophylaxis would apply to all ear diseases and defects not congenital, among them those originating in the pharynx, the nose, the eustachian tube, external canal, the ear complications of general diseases, nervous conditions and trauma. We thus include the stubborn forms of deafness due to chronic middle-ear catarrh, and absolute deafness of labyrinthine or nervous origin, as well as those inflammations of the tympanomastoid region which threaten entire loss of hearing and even life itself. At greater length we may catalogue them as inflammations of the pharynx, obstructions, adenoids and tonsils; inflammation of the nose and irregularities, hypertrophies and obstructions; obstructions and inflammation of the eustachian tube; inflammation of the middle ear and faulty nutrition and atrophy, degenerative states, deficiency in the nerve of hearing, inflammation of the external canal, obstruction by foreign bodies, cerumen and new growths, and especially the common insidious disturbances of the acoustic balance.

Inflammations of the pharynx involving the nasopharynx extend to the tympanopharyngeal tube and cause impairment of its functions, drainage and ventilation. The slight chronic pharyngitis often found in mouth-breathers, gouty or syphilitic persons brings about insidious changes along the tube and middle ear. Gross obstructions to respiration, hypertrophied adenoids and tonsils bring about the same conditions. Smaller obstructions may be large enough, if conveniently placed, to cover the mouth of the tubes or press against them. A very small amount of adenoid tissue in the fossae of Rosenmüller can seriously impede the action of the tubes. Irregularities and impediments to the flow of air and the blood, and lymph circulation of the nasal fossae can cause disturbances of the eustachian tube and middle ear.

The changes which affect the hearing most insidiously are of two kinds: those chiefly inflammatory, and those due to defective ventilation. In either case the results are much the same. First the inflammation causes congestion and increase of the connective-tissue elements, and then contraction, anemia, faulty nutrition, atrophy and degeneration. The choking of the eustachian tube causes the same results without intervention of inflammation directly through the congestion and stagnation of blood and lymph. A defect in the manumetric balance of the tympanum directly affects the drum-membrane. When there is negative pressure the membrane is pushed inward, flexing the ossicular chain. When there is increased pressure in the tympanum, the membrane is blown outward, extending the ossicular chain. Either of these positions is detrimental to the best sound transmission, and when continued long, the effect is serious. Overextension has a detrimental effect on the elastic fibers of the membrane and the ligaments of the ossicular articulations, which in time yield to this overstretching. All these changes directly affect the acoustic balance and render it less capable of transmitting the sonorous vibrations. When once started, this pathologic cycle tends to progress rather than to cease spontaneously, and the structural alterations have no tendency to repair without surgical aid. The atrophy, when once well under way, goes through all the series of changes consequent to faulty nutrition, involves the drum and its contents, and even spreads to the labyrinth.

Decrease of sound perception is the most delicate measure of general nervous exhaustion. It may indicate the commencing of nervous changes which later will destroy the hearing or affect the nervous system very seriously.

Patients should be urged to preserve the fundamental rules of the general hygiene of the ear. They should be advised not to touch the ear deeper than the orifice of the external canal, "to scratch the ear with elbow only"; to allow no water to enter the deeper part of the external canal; to keep the nose free; to blow the nose without closing the nostrils, and if possible to avoid loud sounds or continuous sounds of high pitch. My justification in repeating these directions is found in the fact that many ear diseases are caused by neglect of these simple directions.

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[28] Schorer: Am. Jour. Dis. Child., 1912, iii, 226.

* Read by invitation at the meeting of the Chicago Medical Society, Dec. 18, 1912

MEDICAL AND SURGICAL CORRECTION OF EXTRA-AURAL CONDITIONS WHICH THREATEN THE HEARING

General Treatment.—General conditions detrimental to good hearing are amenable to the usually accepted treatment for these conditions. This group consists of circulatory, metabolic and toxic disturbances.

Anemia and arteriosclerosis are causative of deafness because of defective or insufficient blood-supply to the auditory organ. Anemia is the more common of these factors in early life, while arteriosclerosis is more active in advanced life.

Metabolic disturbances interfere with good hearing through trophic and toxic impairment of the nutrition of the auditory organ. Most important in this group is the loss of balance of the internal secretions of the ductless glands. The type of deafness called otosclerosis is conspicuous as the result of altered internal secretions. Deficient thyroid secretion in myxedema is also often the cause of hypothyroid deafness. So-called gouty and rheumatic diatheses are sometimes associated with deafness, which improves on improvement of the general condition. The relief of constipation often relieves poor hearing. Extreme exhaustion is usually associated with impairment of hearing.

Toxic factors are often important causes in deafness. Through them originate inflammatory and degenerative effects on the auditory nerve and its endings. Tea, coffee, tobacco and especially alcohol are well-known factors in impaired hearing, partly through the injury to the auditory nerve and partly through middle-ear disturbances. Drug injury of the auditory nerve is brought about by quinin and salicylates more frequently than by any other drugs. Hypnotic anodynes, such as the antipyrin group and the veronal group, have been used to such an extent that the auditory nerve apparatus has suffered. Syphilitic infection should receive early energetic treatment because the syphilitic poison is injurious to both the auditory nerve and the middle-ear apparatus.

Local Treatment.—This should be directed to the nose, nasopharynx and pharynx. The nose should have even-balanced air passages. There should be no adhesions or even points of contact of the nasal mucous membranes. The nasopharynx should allow free respiration and open ventilation of the eustachian tubes, and there should be no interference with the mobility of the tubal cartilages.

The mucosa should be free from the slightest suspicion of bearing infection or acting as a culture field for pathogenic bacteria. The three tonsils and the accessory spaces of the nose are the regions which may most readily harbor infection detrimental to hearing, through long-continued toxic effect, and by fulminating attacks of middle-ear inflammation.

In children 30 per cent. of serious loss of hearing is due to conditions which if treated in time would obviate injury to the ears. These conditions include suppuration and the so-called catarrhal conditions, which are equally important in this connection. For the prevention of the condition, nasal catarrh and adenoids must be given careful attention.

In the young, proper care of nose and throat, orthodontia and prevention of mouth-breathing are necessary for conservation of the hearing. In adults, disturbed internal secretions, management of infections, anemia and degenerative processes require attention owing to their powerful effect on hearing.

OCCUPATIONAL AND TRAUMATIC DISEASES OF THE EAR

I classify all diseases as occupational which attack a worker in the course of his vocation, whether they arise directly from the nature of the occupation (as for example boiler-maker's deafness), or whether they arise from an accidental occurrence dependent on the kind of employment, such as the rupture of the drum-membrane from an accidental explosion in powder-making.

The enumeration and description of occupational diseases of the ear is valuable, since a study of the subject points out the wide extent to which these diseases prevail. Such a study should direct the public to the necessity of protecting itself against injury from many occupations. This investigation will also collect data which should result in the mitigation of insanitary and harmful conditions. The effect of general ignorance is shown in a striking manner in the backwardness of public opinion and consequently in legislation, but most unmistakably in the lack of interest in the enforcement of protective laws which are even now on the statute books.

How inclusive this subject is will be apparent on considering the occupations which are accompanied by continuous loud sounds, explosions and detonations, rapid changes of barometric pressure, entrance of water into the nose or external canals, concussion of air in the canals, entrance of foreign bodies into the canals, blows about the head, entrance of pathogenic organisms, hydraulic pressure and abnormal high or low barometric pressure in the canals and the upper air-tract. Among the long list of men employed in occupations deleterious to the ears are boiler-makers, machinists, blacksmiths, engineers and caisson workers. In addition, there is a still longer list of occupations which are indirectly conducive to impaired hearing through undue irritation of the upper air-tract.

The etiologic factors in occupational diseases classified according to their importance are: (1) noises; (2) mechanical trauma; (3) explosions; (4) hydrostatic pressure; (5) percolation of water; (6) decreased barometric pressure, and (7) increased barometric pressure.

From a pathologic point of view, a classification of the occupational diseases of the ear in order of their importance is: (1) irritants of mechanical, functional, aqueous or thermal origin; (2) infections; (3) intoxications; (4) exhaustion, local and general; (5) solution of continuity; (6) commotion, and (7) foreign bodies.

The destructive force of the occupational diseases of the ear may be appreciated on considering the number of those affected. The preventive measures are to be sought by arousing public opinion to these evils and to their vital importance. The danger in the case of every occupation should be recognized by law and should be minimized by law. When the public is sufficiently educated to appreciate the loss through these remediable hardships, it will not be slow in demanding salutary legislation, and in punishing by legal penalty. The special means of protection in every instance are obvious.

Another form of aural trauma which is too often regarded lightly or even entirely overlooked is the insufflation of water into the eustachian tube either by accident or by the use of nasal douches.

PRESERVATION OF HEARING IN EXANTHEMS AND CERTAIN INFECTIOUS FEVERS

In exanthems and certain infectious fevers—notably typhoid fever, diphtheria, whooping-cough, pneumonia and syphilis—the preservation of hearing should be safeguarded by careful and constant attention to the ears and nasopharynx. The importance of this advice will be seen when I say that these infectious diseases are responsible for about 47 per cent. of the cases of serious deafness in children. Panotitis, with simultaneous inflammation of the middle ear and the labyrinth, is a serious menace in children after scarlet fever and other infectious diseases; it is evidently due to an exudative process, the bacteria which have caused the middle-ear inflammation also giving rise to inflammation in the labyrinth.

In these exanthems and infectious diseases the ears should undergo objective inspection; the more serious the general condition, the more often should the ears be inspected. In scarlet fever and measles, the ears and nasopharynx should be inspected twice a day. The nasopharynges should be kept clean and free by cleansing applications. If there is any suspicion of fluid in the middle ear, operative interference on the ear is indicated. The presence of fluid in the middle-ear space is suggested by (1) a bulging appearance of the drum-membrane proper or of Shrapnell's membrane, by a waxy or opaque appearance, or by a yellowish tinge of the membrane in cases of pus, and (2) a rise in temperature otherwise unaccounted for. These appearances, as I say, indicate operative interference with the ear, and the drum-membrane should be incised. If the high temperature persists or if the ear discharges pus for forty-eight hours after the section of the drum-membrane and the syringing of the ear, the mastoid antrum should be opened.

PRESERVATION OF HEARING IN CHRONIC CASES OF EAR INFLAMMATION

Much of the chronic deafness met clinically is due to degenerative changes. In spite of this, if the loss of hearing has not gone beyond the last 20 per cent. of the efficient standard, we can make a good prognosis for improving the hearing capacity up to the standard.

The treatment for chronic cases is directed to removing the fundamental cause of the defect in hearing whether it is local, nasopharyngeal or general.

The cases of chronic impairment of hearing usually require an extended course of treatment. In the deafness dependent on nerve lesions our prognosis is encouraging for cure in luetic cases; in other cases the prognosis is discouraging. In the cases of deafness with a persistent ear-discharge when the nerve of hearing is intact, restoration of efficient hearing is the rule. The first procedure is the arrest of the discharge and cicatrization of the discharging passage. In almost all cases this is accomplished by local antiseptic applications. If improvement does not immediately show itself with the use of any one agent, the help of several agents should be tried. A general point in the treatment is to provide a sufficiently large perforation in the drum-membrane. Syringing should be used to clear the canal and middle ear if very much accumulation is present; otherwise, it should be wiped dry with pledgets of cotton. For antiseptics, the following are given in order of their usefulness: Boric acid saturated solution; alcohol; mercuric chlorid, from 1:1,000 to 1:4,000 in water; tincture of iodin; phenol, from 1:20 to 1:40. When the discharge is scanty, it is wiser to use powders than solutions. Of these, boric acid is most useful. Next come iodoform, xeroform, aristol, alumnol and many others. In less than 1 per cent. of the cases of impaired hearing coincident with a chronic discharging ear, an operation is required to arrest the discharge. This operative procedure should preserve intact the middle-ear structures when they are in position.

When the middle ear has cicatrized after the purulent discharge has ceased, hearing is stimulated and brought to efficient proportions by exercise (inflations and massage) and by replacing the lost parts by an artificial drum-membrane.

The local conditions are improved by methods which increase the blood-supply, such as exercise, massage and chemical stimulation, and by mechanical means for stretching adhesions, such as inflation.

The nasopharyngeal conditions are made normal by local antiseptic applications. The most important of these antiseptics are solutions of nitrate of silver, iodin, chinosol and powders of zinc stearate and aristol. Obstructing tissues should be removed by operative means.

The general condition is important and requires care, especially in the condition called "otosclerosis."

PRESERVATION OF HEARING IN ACUTE CASES OF DEAFNESS

In cases in which the onset of the impairment of hearing is acute, aural examination discloses that the cause is a plugged external canal, a congested and obstructed drum, an auditory nerve lesion or a defect of the auditory tract.

The obstructions in the canal which interfere with hearing are easily removed unless they have caused inflammation. A general rule for removing these obstructions is to remove hard cerumen or dry obstructions by forceps or curet, and soft obstructions by syringing.

Congestion of the middle ear is usually of nasopharyngeal origin and is amenable to nasopharyngeal treatment, which should be directed especially to the orifice of the eustachian tube. Fluid in the drum may be blown out by tympanic inflation; sometimes a myringotomy is required. An important part of the treatment is directed to lessening the obstruction in the eustachian tube by nasopharyngeal treatment.

Auditory nerve lesions are more resistant to treatment. The treatment is the same as the treatment of similar affections of the nerves in other parts of the body and should be adapted to removing the cause. Defects of the auditory tract are treated by the method employed in similar brain lesions of other regions.

Acute impairment of hearing from obstruction in the middle ear can be relieved at once and soon cured if it is not due to virulent infection. The means employed should be drainage and inflation through the eustachian tube and drainage and ventilation through the section of the drum-membrane. In cases in which the recent loss of hearing is due to a virulent infection, the indications are usually that immediate surgical intervention is demanded. Even after the smallest interference in ambulant cases, aseptic dressings are imperative in order to guard against secondary infections.

PRESERVATION OF HEARING IN OPERATIONS ON THE EAR

Clinical experience has shown me that in mastoid operations hearing can be both preserved and improved without much additional effort. This effort chiefly comprises more care and attention to detail. In acute infections of the ear, operative interference should not only restore the hearing to what it was before the infection, but, in certain cases, should even raise the hearing to a more efficient level.

The preservation and improvement of the hearing in mastoid operations demand early and careful operations and rapid convalescence. Lesions of the labyrinth capsule through intratympanic interventions, and especially by the radical operation, can undoubtedly provide the cause for a suppuration of the labyrinth. In such cases, meningitis is imminent and can be averted only by a timely labyrinth operation. Rapid convalescence is assured by following the rules to remove all diseased tissue and to operate as aseptically as possible and to leave no devitalized tissue, such as shreds of connective tissue or detritus in the wound in the shape of bone chips or threads of gauze.

WHEN TO OPERATE TO PRESERVE HEARING

We have learned that in a dense mastoid the suppuration does not tend to resolution, but to continuation and to the development of the dangerous complication of mastoiditis. We have also learned that in a pneumatic cellular mastoid, inflammation goes on either to abscess formation or to resolution. We have learned that in mastoids partly dense and partly pneumatic, with the dense areas occurring near the antrum, the behavior of infection is identical with that of the wholly dense mastoids. These observations show that with inflammation of the antral region shown by inspection, palpation, skiagram, etc., a mastoid operation is indicated in all but the pneumatic bones, and in them when mastoid abscess has been formed. That is, in the pneumatic mastoid, operation should be delayed until the formation of abscess; in the dense mastoid, suppurative inflammation of the mastoid is sufficient indication for mastoid operation, and we should not wait for abscess formation.

The conditions of the ear on inspection favoring operation are fluctuation in the mastoid region, edema over the mastoid region, edema of the osseous canal wall, localized sagging of the inner end of the canal wall, bulging of the tympanic membrane, purulent discharge, pain on pressure in the mastoid region, perforation of Shrapnell's membrane, septic appearance of the patient, and eye-grounds indicating intracranial extension. The nature of the bacterial infection is of interest. In order of their increasing virulence are the staphylococcus, pneumococcus, *Bacillus pyocyaneus,* streptococcus and *Streptococcus mucosus* (or *capsulatus*). The last is extremely virulent and at the same time the symptoms are latent. Mastoid operation is indicated in *Streptococcus mucosus* (*capsulatus*) infection if the ear shows any of the objective symptoms of mastoid infection, and also if the discharge from the ear continues three or four days after the commencement of approved surgical and antiseptic treatment of the middle ear. In obscure cases the differential blood-count is of value. General symptoms favoring mastoid operation are rise of temperature to 100 or more, subnormal temperature (98 or less) or rectal temperature.

The skiagram of the mastoid region favors operation when it shows collections of pus and obscuring of the mastoid cells, or when it shows a mastoid antrum walled about with diploetic or dense bone. Of course, a combination of these conditions points still more strongly to the desirability of a mastoid operation.

In these days there is little excuse to delay operation in purulent middle-ear inflammation after incision of the drum-membrane, if the purulent discharge persists for four or five days in conjunction with a solid mastoid as shown by skiagram. In these early operations the hearing is preserved.

In otology, as in all other branches of medicine, it becomes constantly more important to consider the modification and adaptation of certain stereotyped operations, according to the needs of the individual case. Conservation of parts is the watchword. In mastoid surgery, the preservation of hearing is assured by two things: (1) the preservation of the parts of the mechanism of hearing and (2) the avoidance of cicatrices and adhesions through rapid convalescence.

Now that we have achieved the preservation of life in mastoid operations, we must cooperate for the next triumph, the preservation of the hearing in all cases. And I believe that, in the main, the preservation of hearing will be accomplished through the health of the nasopharynx.

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THE INFLUENCE OF GASTRO-ENTEROSTOMY ON GASTRIC AND DUODENAL ULCERS

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It is generally conceded that gastro-enterostomy exercises a favorable influence on open ulcers of the stomach situated in the antrum or at the pylorus, and on open ulcers of the duodenum. By this is meant that it establishes conditions favorable to the healing of ulcers which have resisted all other known forms of internal treatment. It is likewise recognized that this procedure has no effect on ulcers situated in parts of the stomach other than those just mentioned. It is furthermore admitted that the good effects of gastro-enterostomy on ulcers in the antrum, pylorus or duodenum are not always a lasting one; that recurrence or recrudescence of the ulcer takes place in at least 45 per cent. of the cases. It is well to state these facts at the outset, and with the lessons taught by them proceed to change or modify the operation of gastro-enterostomy as applied to the cure of gastric or duodenal ulcer.

As we do not know the etiology or pathogenesis of gastric or duodenal ulcer, it is difficult to state definitely how or in what manner our therapeutic procedures exercise a healing influence on them. This is not quite true of the effect of gastro-enterostomy; for the creation of a new opening between the stomach and uppermost part of the jejunum can exercise an influence on antral, pyloric or duodenal ulcer in only two ways: either by side-tracking the food contents of the stomach away from the pyloric area into the jejunum, or by permitting a reflux into the stomach of such contents as are contained in the jejunum proximal to the seat of the new anastomosis.

Gastro-enterostomy favorably affects ulceration of the stomach by one of these means alone or by both together, and it is decidedly worth while to discuss this subject in its minutest detail. This discussion will help to correct erroneous ideas that some may have as to the movement of gastric contents after gastro-enterostomy, and may help us to understand why ulceration in some parts of the stomach is benefited by gastro-enterostomy, whereas it is not at all favorably influenced when it is located in other parts of the organ, and finally why ulcers that have presumably healed after gastro-enterostomy recur several months or years later.

As to the movements of the gastric contents after gastro-enterostomy, it is an almost general opinion of medical men, surgeons as well as internists, that after gastro-enterostomy there is a change in the course which the food takes in going from the stomach into the intestines; to wit, that all the gastric contents leave the stomach through the new opening, and practically nothing passes through the pylorus into the duodenum. It is thought that the stomach is normally a passive reservoir during digestion, and that the creation of a new opening at the most dependent point of the organ causes the gastric contents to gravitate through it into the small intestine. The operation of gastro-enterostomy is thus looked on as a drainage operation, and the surgeon has been enjoined to make the new stoma at the lowest point of the stomach, and to place the patient in the upright position immediately after recovery from the anesthetic, thus to facilitate emptying of the stomach by gravity. Let us see how much of this is true. In the first place, the stomach as long as it retains its normal tone is never a passive reservoir; on the contrary, when food is present within the viscus the cardiac end is always exerting a positive pressure on it, and the pyloric end is the seat of continuous peristaltic movement. Furthermore it is impossible to make the new opening at such a point in the stomach that in the changing positions of the organ the opening will always be at its most dependent part, and, finally, it has been experimentally proved that the hydrostatic conditions in the abdominal cavity are such that gravity drainage from the stomach is impossible. As a proof of this last statement it has been experimentally shown that when a gastro-enterostomized stomach is filled with water, the latter does not run out by itself even though the animal is in an upright position. It is also most important to remember that material never moves along any part of the alimentary canal unless the pressure is greater on one side of it than the other. Kelling[1] has determined experimentally and I have found in the human subject that the chyme always takes its normal passage through the pylorus if the latter is patent rather than through any artificial opening. In view of these facts we must conclude that if the pylorus is patent the new anastomotic opening serves no purpose for drainage or for side-tracking of the gastric contents into the jejunum. All of the gastric contents pass through the pylorus when it is patent in spite of the fact that we have a wide, sufficient communication between the stomach and the jejunum. Only when the pylorus is closed do the contents of the stomach pass through the anastomotic opening into the jejunum, and the tighter the closure of the pylorus the more completely do the contents pass through the new anastomotic orifice.

How can we apply these considerations to the question of the influence of gastro-enterostomy on gastric ulcer? If the ulcer is situated in the pyloric end of the stomach, at the pylorus or in the first portion of the duodenum, there is invariably attendant on the ulcer a spastic condition of the pyloric muscle which more or less completely closes this orifice. It is unnecessary for us at present to speculate as to whether the spasm is primary to the ulcer or whether the ulcer produces the spasm, though it is my opinion that the spasm of the pylorus is a purely reflex result of the presence of the ulcer. In substantiation of such an assumption I would simply recall the fact that an ulcer or fissure of the anus is invariably attended with a spasm of the sphincter muscle of the rectum; that a fissure at the angle of the mouth is invariably attended with a spasm of the orbicularis oris; and that ulceration at the ileocecal orifice causes a spasm of the muscular fibers at this part of the intestine.

It might also be mentioned here that when the ulcers in the stomach are not situated at or near the pylorus we do not find any such spasm of the pyloric muscle, which is exactly in accordance with ulcerative conditions situated at a distance from the anal sphincter, oral sphincter or ileocecal orifice.

To come back then to the subject under discussion, I have stated that ulcers situated in the pyloric region are invariably attended with a spastic condition of the pyloric muscle which more or less completely occludes the pyloric orifice. When such spasm is present the effect of gastro-enterostomy is exactly the same as when the pylorus is organically closed by stricture or by tumor, and in such a case the gastric contents after gastro-enterostomy no longer pass through the pyloric orifice, but are more or less completely evacuated through the new anastomotic orifice. The ulcerated area of the stomach is thereby guarded from the constant irritation of food, and healing is thus favored.

Let us now go a step further. After healing of the ulcer takes place the spasm of the pyloric sphincter muscle relaxes; the pylorus again becomes patent; the stomach contents no longer pass through the new anastomotic orifice, but through the patent pylorus. Is it any wonder then that if the original cause of ulcer still exists, the traumatism produced by the food constantly passing across the old ulcerated area at the pyloric orifice should favor a recurrence or recrudescence of an apparently healed ulcer?

Furthermore, as the tendency is a strong one when the pylorus is patent for the new stoma to contract and even close spontaneously, we cannot assume that the creation of a new opening between the stomach and bowel acts as a prophylactic against the possible recurrence of an ulcer.

If the ulcer is located in the stomach elsewhere than at its pylorus or the first portion of the duodenum—that is if it is situated on the lesser curvature, near the cardia or in the fundus portion of the stomach—we cannot expect gastro-enterostomy to have any influence on it for with such an ulcer not only is there no side-tracking of the gastric contents through the new stoma, since the pyloric orifice is not the seat of a reflex spastic closure but even if there was a complete diverting of the food into the jejunum, such a condition would not protect the ulcerated area in the body of the stomach or cardiac region from the constant irritation of the food passing over it. In such cases the new stoma soon contracts and closes without having produced any effect on the ulcerated area.

Therefore we must conclude that gastro-enterostomy can accomplish good only in such ulcers as are situated in the antrum, pylorus or first part of the duodenum—ulcers that are always attended with pyloric spasm in consequence of which the pyloric orifice is closed. In virtue of such pyloric closure the operation of gastro-enterostomy is able to divert the food contents from the ulcerated area and thereby afford to it rest and freedom from irritation; when gastro-enterostomy does not afford such protection from trauma to the ulcerated area, as when it is situated in other parts of the stomach, it will have no favorable influence on the healing process.

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[1] Ann. Surg., 1907.

Let us now turn to the second method in which gastro-enterostomy may favorably influence a gastric ulcer, namely, by reflux of duodenal contents proximal to the site of the anastomosis into the stomach. It would be hard to say that such reflux is present in all cases after gastro-enterostomy, but in almost all the cases in my experience such reflux was present, as proved by the fact that bile and pancreatic juice could always be evacuated from the stomach by means of the stomach-tube. It was formerly thought that the presence of bile and pancreatic fluids in the stomach was evidence of a vicious anastomosis between the stomach and the intestine, but clinical experience has long since taught us that the presence of bile and pancreatic juice in the stomach after gastro-enterostomy is the rule rather than the exception, and that the stomach bears such reflux of contents very well. The contents of the duodenum and jejunum proximal to the site of the anastomosis are chiefly bile and pancreatic juice, and the secretions of the duodenal and jejunal walls. Such contents are strongly alkaline in character. This strong alkalinity neutralizes the hyperacidity of the gastric contents which is attendant on most cases of gastric ulcer, and there can be no question that immediate relief of this distressing symptom is affected by gastro-enterostomy. It is not at all unusual for patients to state immediately on recovery from the anesthetic that the hyperacidity from which they suffered prior to the operation had been relieved, and it is reasonable to assume that this relief is due to the neutralization of the hyperacid gastric contents by the reflux of the strongly alkaline contents through the anastomotic opening.

Does such neutralization of gastric contents promote the healing of the ulcer? If this were the case we would expect that occasionally an ulcer situated at sites other than the antrum, pylorus or first part of the duodenum would be favorably affected by gastro-enterostomy, for surely the entire contents of the stomach are neutralized, and there is no reason why ulcers at the lesser curvature, cardiac end or fundus of the stomach should not be as favorably influenced in this way as are ulcers in the pyloric region. In the absence of such beneficial influence on ulcers other than in the pyloric region we cannot assume that the reflux of intestinal contents into the stomach with the attendant neutralization of a coexisting hyperacidity is the cause of healing.

There is one other way in which gastro-enterostomy may favorably influence gastric ulcer, and I do not bring it forward prominently because of the insufficient experimental and clinical data on which my theory would rest. As stated at the outset of the paper, we have no exact knowledge of the causation and pathogenesis of gastric ulcer. Recently, however, several experimental workers have advanced the theory that gastric and duodenal ulcer are due to infective states of the stomach and duodenum; that given a minute or gross defect in the gastric mucosa produced by trauma or other cause, such minute or gross defects will grow into ulcerations, provided the stomach contains pathogenic bacteria. If this theory proves to be true we could understand how gastro-enterostomy exerts additional good influence on gastric ulcers, for with a closed pylorus and thereby a closed stomach cavity, the pathogenic bacteria in the stomach rise to a high degree of virulence, and thus keep active the ulcerating process. The establishment of a new gastro-enteric opening by facilitating discharge from, and emptying of, the stomach will also diminish the virulency of its contained bacteria, and so promote a healing of the ulcerated area. There is no question whatsoever that when such infective processes exist in conjunction with ulcers, as has happened in my experience, the symptoms of the ulcer and the evidences of the infection have been relieved by gastro-enterostomy.

To sum up: Gastro-enterostomy is of value only in pyloric, antral or duodenal ulcers that are attended with pyloric spasm, and it has absolutely no value in ulcers situated in other parts of the organ, though immediate relief from the distressing symptom of hyperacidity is effected by gastro-enterostomy in all cases of gastric ulcer, wherever the ulcer is situated.

Furthermore, since when the pylorus becomes patent, the gastro-enteric orifice tends to contract and close, the tendency of recrudescence or reformation of ulcer is always present, provided the primary exciting cause still exists.

It is now worth while to see whether or not we can prevent the recurrence or recrudescence of those ulcers that are favorably influenced by gastro-enterostomy: The high percentage of recurrence, the tendency to malignant degeneration of the ulcer, has led surgeons and internists alike to the conclusion that it were better to excise the ulcer, or to do pylorectomy in place of gastro-enterostomy. There can be no question as to the advisability of excising an ulcer that is favorably situated in the antrum, pylorus or duodenum, not so much to prevent recurrence of the ulcer, for it has not been the experience that excision alone protects against recurrence, but rather to prevent a possible malignant degeneration of the ulcerated area.

For the time being, however, we are concerned chiefly with the thought of how to prevent the recurrence or recrudescence of healed or healing ulcerations in the pyloric region. It has been clinically found that pylorectomy is a far greater safeguard against recurrence than is gastro-enterostomy or excision alone, but pylorectomy has a mortality of from 12 to 14 per cent. under the most favorable conditions, whereas gastro-enterostomy has a mortality of from 1.5 to 2 per cent. under similar circumstances, and the conscientious surgeon must always be in doubt when facing an ulcer of the stomach whether it is not more advisable to do a simple gastro-enterostomy with its low mortality, than a pylorectomy with its much higher death-rate. Is there not a way in which we can obtain the same good effect of lasting cure by gastro-enterostomy as by pylorectomy? This we can answer in the affirmative, by the operation of gastro-enterostomy with pyloric exclusion.

This consists of gastro-enterostomy practiced as usual, with the addition of an exclusion of the antrum, pylorus and duodenum by means of a purse-string ligature of heavy linen thread passed round the stomach just proximal to the antrum, and tied snugly enough to occlude the stomach at this point, without constriction of its walls or its circulation. Instead of a ligature we can enfold, by means of several layers of suture, the stomach wall at the selected point, and thereby exclude the antrum, pylorus and duodenum from the rest of the stomach cavity.

This operation of pyloric exclusion I have practiced many times since 1901, for various conditions; for bleeding ulcers situated in the pyloric region, for duodenal fistula or accidental wound of the duodenum, and for simple or callous ulcer in the pyloric portion of the stomach. I have practically never seen any bad results from such occluding ligature or occluding set of sutures. In one case in which a ligature was applied by a colleague it cut through the gastric wall, either because it had been tied too tightly or because the gastric wall at the site at which it was applied was infiltrated and brittle. The passage of such an occluding ligature does not in any way increase the mortality which is attendant on gastro-enterostomy, nor does it materially increase the time of the operation. It takes but a few minutes to pass such an occluding ligature. It effectually and permanently excludes the antral end of the stomach and duodenum from the passage of stomach contents through them.[2] In the presence of such a ligature all the contents of the stomach must pass through the gastro-enteric orifice. As such an occlusion is a permanent one, the gastro-enteric orifice does not close, and therefore there can be no recrudescence or recurrence of ulcer as when simple gastro-enterostomy is established and the pylorus becomes patent. Von Eiselsberg has modified this operation of mine by completely dividing the stomach proximal to the antrum, and closing both ends with a double row of sutures. I can find no advantage in such modification. On the contrary, it carries with it the additional risk of infection, and thereby tends to increase the mortality connected with gastro-enterostomy.

As previously stated, I have found the occluding ligature always safe and easily applied. I am accustomed to pass a heavy Pagenstecher thread behind the stomach, just proximal to the antrum, then to thread this ligature on a curved needle, take one or two stitches through the peritoneum and muscularis of the anterior wall of the stomach, just to prevent the ligature from sliding, and then slowly tie the ligature, being careful to bring the mucous walls of the stomach together, but not to constrict the circulation of the organ. The mortality of this operation is exactly the same as that of gastro-enterostomy. It has all the advantages and none of the disadvantages of pylorectomy. It is the only way in which, on the basis of preventing the passage of food through the patent pylorus, we can prevent the recrudescence or reformation of gastric ulcer.

In closing this paper I especially wish to emphasize the following points:

Simple gastro-enterostomy can influence pyloric or duodenal ulcer only when there is an attendant pyloric spasm. In the absence of the latter all the food passes through the patent pylorus, even though a gastro-enterostomy is present and so the ulcerated area is not protected from trauma.

The reflux of duodenal contents into the stomach is a natural attendant on gastro-enterostomy, and serves to alleviate the distressing symptom of hyperacidity, but it does not favor the healing of the ulcer.

Gastro-enterostomy will not protect against a recurrence of the ulcer. Barring the question of malignant degeneration of a healed or healing ulcer, excision of an ulcer has no particular merit over a gastro-enterostomy toward preventing recurrence or recrudescence.

Pylorectomy does protect against recurrence, but it has an attendant higher mortality. Gastro-enterostomy with pyloric exclusion favors the healing of the ulcer, and has the same value in preventing recurrence as has pylorectomy, with the great advantage over the latter of a very low mortality.

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[2] Shown by x-ray bismuth plates and secondary operations.

The Rectum Not a Fecal Storehouse.—The rectum is not normally a fecal storehouse, although through habit it often becomes so, especially in the female. Examination of the male for service in the army shows the rectum usually empty.—William J. Mayo in *American Journal Medical Sciences.*

SOME FEATURES OF THE THEORY AND PRACTICE OF MEDICINE DURING THE SEVENTEENTH CENTURY

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(Concluded from page 820)

HARVEY AND SYDENHAM

Of the theory itself of the circulation I shall not have to speak in detail. The children of to-day in the intermediate grades of the public schools know better than the great teachers of anatomy whom I have mentioned the course of the blood from the left ventricle through the arteries, capillaries and veins back in a circle to the right ventricle and through the lungs. Indeed, they know it better than Harvey himself knew it, for even to him a complete demonstration was denied, since it was not until 1661 that Malpighi observed with a microscope the passage of the blood through the capillaries, whose continuity with the arteries and veins Marchetti finally proved by injecting them. Harvey affirmed his conviction that such a communication must exist, but it was on this ultimate demonstration that his discovery finally rested.

The effect of Harvey's publication on his own life and on his practice possesses but little interest for us now. How he was buffeted and abused and reviled is a matter of personal record that I, fortunately, shall not have to transcribe. Something of the same feeling, though far less bitter and less enduring, was expressed 245 years later toward Lister, when he first announced his belief in wound-infection. His own university (the University of London) regarded him as a heretic, and the earliest recognition that he received came to him from the countrymen of Pasteur and from those of Virchow. The whole miserable story concerning Harvey is better forgotten.

The effect, however, on the theory of medicine was startling enough. The whole structure was shaken and much of it was destroyed. The theory of "natural spirits," of "vital spirits" and of "animal spirits" disappeared from medical terminology, though the phrases remained embalmed in current speech. The doctrine of the humors, once so predominant, gradually faded into insignificance; Galen was discredited, and the tyranny of authority was forever broken; the four elements, earth, air, fire and water, and their four conditions, hot, cold, moist and dry, began to give place to a new conception of the working of the body, and physiology, the study of vital functions, came for the first time under experimental observation. Picquet, at Montpellier, in 1647 traced the lacteals to the receptaculum chyli and demonstrated that the thoracic duct empties into the left subclavian vein; Peyer and Brunner discovered the intestinal glands; Schneider proved that the nasal mucus came from the membrane lining the nostrils and not from the brain through the cribriform plate; Wirsung found the duct of the pancreas; Highmore described the structure of the testicles and the seminal ducts, and Needham studied the functions of the ovaries. The tourniquet was invented by Morel during the siege of Besançon in 1674, and the obstetric forceps was invented by Peter Chamberlain about 1630. The progress that medicine made in the seventeenth century was marvelous. The discovery of the circulation was found to be the key to whole departments of medical knowledge.

The respiration still remained a mystery. It had been thought that as the heart and stomach possessed an innate principle of heat, so the lungs possessed an innate principle of expansion. Other principle there seemed not to be, though the action of the intercostal muscles had been observed. Jan. 22, 1666, Pepys noted in his diary: "The first meeting of Gresham College since the plague. Among other fine discourses, what pleased me most was Sir G. Ent" (then president of the College of Physicians), "about respiration; that it is not to this day known or concluded on, among physicians, nor to be done either, how the action is managed by Nature or for what use is it." Yet at this very time Borelli was studying the resemblance between the action of inspiration and that of the so-called vacuum pump, then recently (1654) invented by Guericke. Borelli was a professor of mathematics in Pisa for some years before his death in 1679. Of course this analogy in no sense constituted an adequate theory of respiration, for which 150 years must yet pass before the air inspired could be understood chemically, and the absorption of oxygen and the elimination of the products of combustion noted and measured. In fact, it was not until 1837 that Heinrich Gustavus Magnus published in the proceedings of the Berlin Academy of Sciences the complete solution of the process of respiration as we to-day understand it. And yet Borelli's pump-theory of respiration was as great an achievement as was Guericke's pump itself, which superseded the screw of Archimedes.

In the early part of the seventeenth century, then, medicine was a child clinging to the skirts of philosophy. Bacon was a philosopher; Caesalpinus, although he was physician to Clement VII, was a philosopher of eminence. Linnaeus acknowledged his obligations to Caesalpinus, whose range was almost universal. Caesalpinus taught that the world could be reduced to two principles, God and matter, and that all finite intelligences, the human soul, and angels and demons, belonged to the realm of matter. Nothing could be bolder than his philosophical speculations. He was a consistent materialist. Sarpi was a theologian and philosopher rather than a physician. Descartes wrote much on medicine. Locke was engaged in the practice of medicine when he wrote his constitution for South Carolina. Two years earlier, in 1667, he was physician to the Earl of Shaftesbury, in whose family he resided. Dugald Stewart said of Locke:

> No science could have been chosen, more happily calculated than medicine, to prepare such a mind as his for the prosecution of those speculations which have immortalized his name: the complicated and fugitive and often equivocal phenomena of disease, requiring in the observer a far greater portion of discriminating sagacity than those of physics properly so-called; resembling, in this respect, much more nearly the phenomena about which metaphysics, ethics and politics are conversant.

In such hands, however, the practice of medicine could not become developed. Even Harvey seemed to fail in this respect, although it is a difficult task to estimate his professional worth as a physician on account of the deluge of abuse with which his enemies sought to overwhelm him. This result he himself foresaw. "I not only feared injury to myself," he wrote, "from the envy of individuals, but I trembled lest all mankind should become my enemies." Dr. Gabriel Harvey, Spenser's evil genius, was 83 years old when William Harvey's book was published. While conceding that his namesake was a very fortunate antagonist, Gabriel Harvey maintained, in the seventeenth-century Latin, that William Harvey was in no repute whatever as a physician.[8] Gabriel Harvey says that his namesake was unskilful enough to give Lord Rainton a purge so powerful that "one-half of it operated eighty times, and the whole dose would probably have sent the patient to Hades." Aubrey said of William Harvey that "though the profession would allow him to be an excellent anatomist, yet I have never heard that any one admired his therapeutic way." Harvey himself said that after his book on the circulation of the blood came out, he "fell mightily in his practice, and was believed by the vulgar that he was crackbrained, and all the physicians were against him." Among his contemporaries, as Dr. Johnson says of Blackmore, he was much oftener mentioned by his enemies than by his friends.

But at the very time, June, 1645, when Dr. Harvey was occupied during the battle of Naseby in watching over the infant children of King Charles, there was a young man fighting under the command of Cromwell who was destined to represent the very best and highest traditions of the profession of medicine—destined to perpetuate the spirit of Ambrose Paré and to transmit it unimpaired to Haller and to Boerhaave. Having given a passing glance at the spirit of medical ignorance as exemplified in Dr. Sangrado and at the spirit of medical vanity and intolerance as illustrated by the physicians whom Molière described, there seems a necessity to fill out the picture of the practice of medicine in the seventeenth century by saying a few words of one of the exponents of its scientific and humanitarian spirit. This exponent is Thomas Sydenham.

Sydenham was born in 1624, two years later than Molière and four years before William Harvey's theory was given to the world. He came of an excellent family, that of the Sydenhams of Dorsetshire; and in 1642, at the age of 18, was entered as a commoner of Magdalen College, Oxford. Already the civil war between Charles and the Parliament had begun with the battle of Edgehill, and Sydenham left Oxford shortly after his entrance and enlisted in the army of the Parliament, in which two of his brothers also served, the eldest, William, holding a commission as colonel under Parliament. The Earl of Clarendon notes the general disaffection of Dorsetshire to the King's cause.

June 14, 1645, the battle of Naseby was fought, which put an end forever to the King's hopes of success in war; and on May 5, 1646, Charles surrendered his person to the Scots at Newark, only to be handed back by them to Parliament and to be imprisoned in Holmeby House. Sydenham, then 22 years old, laid down his musket and returned to Oxford. The war was finished. There is some interest in noting that John Bunyan had shouldered his musket and marched in the same rank with Sydenham.

In 1648 he took his degree of M.B. without having taken the preliminary degree in arts. There is a tradition that he afterward spent some time in study in Montpellier—how long we cannot discover—after which he returned to London and engaged in the practice of medicine. From the humble obscurity of the first years of his practice we can glean nothing of interest. The date of his first achievement is May 7, 1666, eighteen years after he had taken his bachelor's degree in medicine, and consists of a notice in the transactions of the Royal Society, then in the second year of its existence, reviewing his first work, entitled "A Method of Curing Fevers, Based on My Own Observations."[9] The principal interest of this work to-day does not consist in his classification and treatment of fevers, but in his revelation of himself. What was the last thought in his mind in writing it, is our first thought in reading it after 246 years, for what he thought is of less value than what he was. His prescriptions are not of much use to us. No one would think to-day of treating a case of intestinal obstruction, for instance, by applying a split puppy, hot, to the abdomen, but his method is perennially instructive. After all, it is not what a man knows but what he is that counts.

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[8] Felicissimus anatomicus, licet medicus nequaquam insignissimus.

[9] Methodus Curandi Febres, Propriis Observationibus Superstructa.

He possessed a clear insight into the significance of the various symptoms of disease. He considered carefully their relative values. This is one of the highest qualities of the human mind. It is what constitutes sanity. Not merely the most conspicuous symptom impressed him, but the most important—the one about which all the others were grouped—the cardinal symptom. As he says himself, "It is important in describing any disease, to consider the constant phenomena apart from the adventitious or accidental ones." These constant phenomena were what constituted the exact recognition of disease. The others he did not neglect, but he rightly regarded them as of subsidiary importance. This is a true method of observation.

His mind was remarkably free from the influences of superstition and from the stifling traditions of the ancient masters. He was not uninfluenced by the beliefs of his time—who of us is?—but when the accepted theories of disease were disproved by his experience, they ceased to direct his practice. We have rightly discarded almost all of the theories that were then current—we no longer believe, for example, that the plague was sent as a punishment for moral offenses; we no longer believe that small-pox is due to an atmospheric concoction of noxious vapors; we seem to have touched bottom in our explanation of malaria and of yellow fever; but in spite of Sydenham's faulty theory of disease, or rather in spite of the inadequate etiology of his time, it is probable that few physicians of to-day equal him in the accuracy of his observation, and that none would excel him in the skilful adaptation to the treatment of disease of the few and imperfect means at his disposal. He was obliged to rely on himself for many things. He was a fortunate man. He had no clinical thermometer, no stethoscope. The analysis of the urine consisted in an appeal to the sense of taste. There was no general recognition of the significance of the pulse-rate. Howell says, "Some pulses have been known to beat thirty thousand times an hour in acute fevers." In 1666, the year when his book on "Fevers" appeared, and the year when Molière's "Misanthrope" was written, Sir George Ent maintained that "the urine was not borne to the kidneys through the veins but through the nerves."

No one ever cured so many diseases with such inadequate resources. This is the highest praise that can be given to a man, and Sydenham merits it. "It is one of the elements of his superiority," says Latham in his "Life of Sydenham," "that he looked out for his cases more watchfully, looked into them more closely, and appreciated better the facts that they disclosed, than his fellows did." He never allowed his theories of disease to obscure his attentive observation of symptoms, or to come between him and his patient's welfare, for his purpose was to cure them. There is an unmistakable strain of exaltation in his voice when he records the recovery in a serious case. It is manifest that his whole heart was in his work. There is an intense sincerity in him. In the Koran there are condensed utterances where a whole thought is expressed into a single word. It is a witness to Mohammed's supreme conviction. "Assuredly," he says, and stops there. It is sufficient. So Sydenham attests his own earnestness in emphatic phrases. "Observe this watchfully," he says, to impress his thought on the reader; and again, "This I have proved by abundant experience," or "This must not be forgotten," or "Carefully attend to this." Such sentences are luminous.

Then again there is an excellent humility in him, which reminds us of Ambrose Paré's constant utterance, "I dressed him and God cured him." Sydenham is full of the same spirit of piety. "We have good reason for believing," he wrote, "that there are certain sorts of fever which Nature cures by a way of her own"; and again, "The disease must be attacked easily and, as far as its nature will allow, must go off of its own accord." "We now come," he says again, "to consider what our efforts must be to assist Nature in the elimination of the morbific matter, in her own way and after her own fashion." "Meanwhile," he records in his report of a case of continued fever, "I watched what method Nature might take, with the intention of subduing the symptoms by treading in her footsteps. Now while I so watched the disease, it departed; slowly and safely—still it departed. I often think," he reflects, "that we move more hastily than we ought to do, and that more could be left to Nature than we are at present in the habit of leaving her. To imagine that she always wants the aid of art is an error." It needed some courage to write that in the seventeenth century. From all these observations he drew a wonderful truth, whose statement alone would entitle him to a high place in his profession. It is this: "a fever is Nature's engine which she brings into the field to remove her enemy."

One would scarcely look in an essay on "Dysentery" with the expectation of finding a lyric utterance, and yet that is where he sings the praises of opium. He says:

> And here I cannot but break out in praise of the great God, the giver of all good things, who hath granted to the human race, as a comfort in their afflictions, a medicine of the value of opium, either in regard to the number of diseases that it can mitigate, or its efficacy in extirpating them! So necessary an instrument is opium in the hands of a skillful man, that medicine would be a cripple without it; and whoever understands it well will do more with it alone than he could well hope to do with any other single medicine. To know it only as a means of procuring sleep, or of allaying pain or of checking diarrhea, is to know it only by halves.

Sydenham's achievements were his own, and his limitations were the result of the conditions of his time. For he had his limitations and justice requires that they should receive a word also. Though an intimate friendship bound him closely to two of the best minds of his age, Locke and Boyle, he was not qualified to emulate their breadth of mind and their large scope of thought.

In 1663 quinin was introduced into general use in England under the name of jesuit's bark or cinchona. Sydenham used it and praised it, but without acknowledging or apparently recognizing its supreme value in intermittent fever. To tell the truth, cinchona fell among thieves, and was early discredited by its association with quacks, who advertised it for personal fame and who exploited it for selfish profit. Not until many years had passed away did cinchona recover from the contamination of its early associations.

Sydenham set little store by the discovery of Harvey. Not that he actively disparaged it, for he never mentions the name of his great contemporary, but he evidently thought that the practice of medicine, so far as

In view of the very high degree of susceptibility of the guinea-pig to inoculation tuberculosis, these results are nothing less than marvelous, and to many who have had experience with tuberculosis in these animals they are incredible.

Meissen reports his experience in the treatment of pulmonary tuberculosis along the same lines, forty-seven cases of moderate severity having been investigated, in which 80 per cent. of good results were obtained under treatment with copper "according to my impression materially better than in similar cases where only the usual treatment was used. In certain cases the favorable action surprised me." He did not try the methylene-blue treatment, because, he says, in the animal experiments the copper was more effective.

Strauss used both the methylene-blue and the copper treatment on lupus cases, trying all the copper compounds mentioned, both internally and locally, the copper being readily absorbed from salves containing the lecithin compound. Good results were obtained in almost all cases of lupus, better with copper than with methylene-blue; no satisfactory results were obtained with other skin diseases.

These papers were shortly followed by a paper by Prof. Hugo Selter[2] who seems grieved at having been left out of consideration although he was, he asserts, intimately associated with part of the work. He makes the important statement that certain of the animals reported by Countess von Linden showed when he examined them, no difference from the controls; also, his own experiments with methylene-blue gave no favorable results in tuberculous rabbits and guinea-pigs. With patients he obtained rather inconclusive results and deplores the premature nature of the reports of the countess and her associates. A polemic of personalities by all four participants follows this paper, in which Selter lays significant emphasis on the fact that the mysterious copper-lecithin compound is advertised as prepared by the Farbenfabrik vorm. Fr. Bayer & Co.

More recently there has appeared another paper by von Linden,[3] which practically repeats the material given in her previous publication. Somewhat more definite details of some of the experiments are given, which only serve to emphasize the mild infection with which her guinea-pigs were suffering (the average life of the controls in the largest series was thirty weeks) and the fact that intercurrent epidemics so cut into her series that no comparative figures of any value can be obtained. On the basis of two analyses, without report of adequate controls or data, it is concluded that tuberculous tissues contain more copper than normal tissues. The influence of the reaction of the tissues and autovaccination by bacilli killed by the chemical, are also taken into consideration as factors in the chemotherapeutic success. Strauss[4] also has published another article on the subject of skin tuberculosis, reporting a favorable experience in seventy cases. The best results were obtained, he says, with "salves of a new chemical compound" made by the Farbenfabrik vorm. Fr. Bayer & Co., "according to a special process," which will be furnished to those interested "under specified conditions" which are not stated. These "compounds" consist of "inorganic or complex copper salts and lecithin." For general treatment "a complex copper salt" is recommended. No results were obtained with colloidal copper. The application of the treatment results in considerable local reaction about the tuberculous lesions, which, it is suggested, may be an immunity reaction to products of disintegration of tubercle bacilli. In most cases both local and internal treatment with copper compounds, commonly combined with iodin-methylene-blue, was used. The results of all the cases are not described, but eight very favorable cases are reported, together with illustrations which would be more convincing if the photographer had not usually changed his background from dark to light in showing respectively untreated and treated cases, thereby reducing the prominence of any lesions present in the latter.

As experimental work in tuberculosis is very slow on account of the chronic character of the disease, it will be some time before extensive reports can be made of control investigations of the action of copper in tuberculosis, which undoubtedly have been begun in many laboratories. Since we have had some experience and results with copper compounds in their relation to tuberculous infections of laboratory animals, in experiments which were begun some time before the publication of the *Finkler Heilverfahren*, it seems desirable to present the main results in order that they may be available to those whose interest may be aroused by the German literature.

It may be briefly stated that in a considerable number of experiments with both rabbits and guinea-pigs, we have never observed copper compounds to produce any favorable effects on the course of tuberculous infections. The rabbits have been inoculated in one eye, which permits of especially favorable observation of the course of the disease. The guinea-pigs have been inoculated subcutaneously. Human tubercle bacilli have been used in all experiments. Our copper compounds have included copper sulphate, copper acetate, copper oleate and copper salts of amino-acids.

These have been administered both by feeding and by intramuscular injections begun at the time of inoculation, or at various intervals thereafter, and, in most experiments, pushed to the maximum dosage compatible with preserving the health of the animal. Analyses of both normal and tuberculous tissues have shown the entrance of the copper into the circulation and its deposition in the tissues including the eyes of the rabbits. Our figures have not shown any evidence of a tendency for the copper to accumulate in the tuberculous lesions in greater amounts than in the normal tissues, although apparently the copper does enter tuberculous tissues to some extent.[5]

We confess that these absolutely negative results were not anticipated, or at least we had hoped, from *a priori* reasons, that some encouraging results would be obtained, but we have seen nothing even suggestive of a favorable influence of copper on the experimental tuberculosis. Other experiments, of different nature, have failed to indicate any striking bactericidal action of copper compounds on the tubercle bacilli; on the contrary, we find copper salts to have surprisingly little effect on tubercle bacilli. To be sure, we have not had experience with the "complex lecithin-copper compound" made by the Farbenfabrik vormals Fr. Bayer & Co. We wrote to them for some of this material and received a letter to the following effect:

> In reply to your esteemed letter permit us to state that it is impossible for us at present to place at your disposal the

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[2] Selter, Hugo: Beitr. z. Klin. d. Tuberk., 1912, xxiv, No. 2.

[3] Von Linden: Weitere Erfahrungen mit einer Chemotherapie der Tuberkulose, München. med. Wchnschr., Nov. 19, 1912, p. 2560.

[4] Strauss, A.: Weiterer Beitrag zur Chemotherapie der äusseren Tuberkulose, München. med. Wchnschr., Dec. 10, 1912, p. 2718.

[5] The details of these experiments, together with others as yet incomplete, will be published eventually in the Journal of Infectious Diseases.

preparation for Finkler's treatment. Changes in the compound have become necessary, which are occupying us at present.[6]

But it is to be questioned whether a lecithin mixture or "compound" should have any noticeable advantage over a copper salt of any high fatty acid, such as copper oleate, which has similar physical properties. In these days of immunity reactions lecithin is a *Schlagwort;* we can see no other reason for its preference over oleic acid as a vehicle for copper. There are sound physiologic reasons for expecting particular advantages for the copper salts of amino-acids, but as yet we have not been able to demonstrate any such advantages although we are conducting a systematic investigation of the properties of copper salts of various amino-acids.

We would not be understood as denying the possibility of favorable results being obtained by the use of copper compounds in tuberculosis. Our sole intention is to state that we ourselves have been unable to secure any appreciable effects in experimental animals, and that our experience is not in harmony with the experimental results described by the Countess von Linden, on which the clinical use of copper is based. We have made no clinical observations whatever.

PELLAGRA

WITH SPECIAL REFERENCE TO PATHOLOGY OF GASTRO-INTESTINAL TRACT[*]

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The changes that occur in the body during the progress of a disease are always of interest and vital importance, and it is worthy of note that from the earliest recognition of pellagra much attention has been given to its pathology. But in spite of painstaking work by numerous investigators, our knowledge of the subject is yet in a somewhat chaotic state. Following the lead of earlier writers, those studying the subject more recently have confined their observations largely to changes in the central nervous system, while the morbid condition of the gastro-intestinal tract, it would seem, has been given insufficient attention. The extent and severity of the lesions vary with the type of the disease present, as do also the symptoms arising from their presence. With our present state of knowledge it would hardly seem possible to decide whether the gastro-intestinal lesions or the changes in the nervous system were the primary or fundamental conditions.

CHANGES IN THE NERVOUS SYSTEM

Sandwith[1] found in certain cases degenerative changes in the spinal cord, most marked in the columns of Goll and Burdach, but in many other cases no pathology was evident. This absence of cord changes was explained by the fact that either these patients had suffered from the disease only a year or less, or they were apparently not far advanced, so that in his opinion cord degeneration, as discovered by the microscope, occurred late in the disease. From autopsies in cases in which the condition had existed for different lengths of time, cell degenerations were noticed in the brain cortex as well as in the lateral and posterior columns of the cord.

In a large number of autopsies done by Lombroso[2] and others, variable changes are recorded as present in brain and spinal cord. In some instances the weight of the brain was increased, in others diminished; in some hyperemia was present, in others anemia was noted. Degenerations of a fatty, pigmentary or calcareous type were present in the walls of cerebral capillaries. The pigmentation universally found in the sympathetic and spinal ganglia was considered an indication of marked nutritional changes in the central nervous system. The lesions found in the cord are described as being similar to those due to ergotism, their advance depending on severity of poisoning or lowering of resistance by intercurrent conditions.

Roberts[3] states that there is atrophy of the convolutions and in a majority of cases the weight of the entire brain is reduced, but that in many instances the weight is normal or increased. Hyperemia or anemia was noted, and also degenerative changes as mentioned above. Gross cord lesions were not very evident. The microscopic changes noted were degeneration of the direct pyramidal tracts and columns of Goll and Burdach, together with pigmentary degeneration of the cells of both anterior and posterior horns.

Spiller[4] has emphasized the point that the degeneration in the cord is not a systemic but a diffuse process, and so resembles a toxic degeneration and does not essentially differ from that in anemia, except that in pellagra the nerve-cells are more affected. He concluded that the cause must be some toxic or infectious agent acting on all parts of the central nervous system causing cellular degeneration as well as nerve fiber degeneration in the posterior and lateral columns.

CHANGES IN THE GASTRO-INTESTINAL TRACT

The changes in the gastro-intestinal tract seem to vary chiefly in degree, being more marked in the acute forms, but in all cases in which definite lesions exist, they consist of chronic catarrhal inflammation with exfoliation of epithelial cells and infiltration of stroma. Thrash[5] was in doubt whether or not this was a terminal condition as a result of the prolonged illness. He believes that the gastro-intestinal disturbances are secondary and due to the effort to excrete poisons ingested or formed from perverted metabolism and cell destruction. Atrophy of the muscular coats of the intestinal wall has been frequently mentioned [5, 6] as present in a large proportion of cases examined, and rarely anemia or hyperemia of gastro-intestinal mucosa, as well as chronic enteritis.

Tuczek[7] states that definite post-mortem results are found in the acute forms, typhus pellagrosus, in the form of chronic gastro-enteritis with formation of ulcers and swelling of mesenteric glands. This is associated with marked changes in the central nervous system and with general visceral involvement. Roberts[8] in studying the pathology of pellagra noted atrophy of the muscular coats of the stomach and in acute cases found a true gastritis. The changes found in the intestine seemed to depend on the duration and severity of the disease, consisting of atrophy of muscular coats and, in acute cases, of enteritis with ulceration, the latter chiefly in the colon and rectum.

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[6] "Im Verfolg Ihrer werten Zuschrift gestatten wir uns Ihnen die Mitteilung zu machen, dass es uns gegenwärtig unmöglich ist die für das Finkler'sche Heilverfahren in Betracht kommende Präparate Ihnen zur Verfügung zu stellen. Es haben sich nämlich Aenderungen der betr. Verbindung notwendig gemacht, die uns augenblicklich noch beschäftigen."

[*] From the Pathological Laboratory, State Hospital No. 2, St. Joseph, Mo.

1. Niles: Pellagra, pp. 153, 158.
2. Marie: Pellagra, p. 262.
3. Roberts: Pellagra, pp. 142, 145.
4. Roberts: Pellagra, p. 152.
5. Niles: Pellagra, p. 159.
6. Marie: Pellagra, p. 269.
7. Marie: Pellagra, p. 274.
8. Roberts: Pellagra, p 119.

The suggestion that the gastro-intestinal lesions found at autopsy are terminal and do not correctly represent conditions existing during life loses weight when we consider the clinical importance of symptoms from this source. The gastro-intestinal symptoms are the earliest,[9] most persistent and dangerous of all manifestations of pellagra. Their importance is emphasized by the fact that their presence together with the skin manifestation is essential to a clinical recognition of the disease, and also by the fact that the gastro-intestinal and skin lesions are sufficient for a post-mortem diagnosis. In studying the priority of symptoms in a series of cases, one is impressed by the large percentage in which gastro-intestinal disturbance is the cause of first complaint.

In the series of cases under my observation, the prominence and distressing character of symptoms indicating derangement of the gastro-intestinal tract were very marked and constant. This fact, together with the rapid course of the malady, would class these cases in the acute type, typhus pellagrosus, the chronic forms showing seasonal recurrences and less active manifestations of the disease.

Four of the fatal cases of pellagra in this institution came to necropsy. A brief report of these cases and post-mortem findings, with reference to lesions of the digestive tract, may be of interest.

Case 1.—A woman, aged 57, had been in this institution continuously for the past nine years and for most of the time for the past twenty-two years. There was no history or evidence of a previous attack of pellagra. About June 1, 1911, characteristic skin lesions of pellagra developed on the back of both hands and wrists, together with marked stomatitis and excessive flow of saliva—evidence of acute intestinal disturbance—diarrhea and persistent abdominal pain. The case progressed rapidly and death occurred July 10, 1911. Necropsy was done twenty hours after death. Examination of the abdominal viscera showed intense congestion of omental and mesenteric vessels. The ileum, cecum and ascending colon presented a marked catarrhal inflammation, in some areas becoming hemorrhagic in character. Aside from the general hyperemia the rest of the gastro-intestinal tract appeared normal.

Case 2.—A woman, aged 64, had been a patient in this institution for the past thirteen years, during which time her record gives no history of a previous attack. About July 10, 1911, typical lesions of pellagra appeared on the dorsal surfaces of both hands, rapidly extending over the dorsal surface of the fingers and completely encircling both wrists (Figs. 1 and 2). The border of the lesion was distinctly reddened and the line of separation from the normal skin was clearly marked. The lesions were dry with a tendency to exfoliation; about the wrists there were numerous fissures. Areas of similar character soon appeared on the forehead and on the left side of the neck (Figs. 2 and 3). The mucous membrane of the mouth and tongue developed a reddened glazed appearance and there appeared a constant, excessive flow of saliva, filling the mouth and escaping in a continuous tiny stream. There was also a diarrhea, intermittent in character and apparently uninfluenced by diet or remedies. Nausea and vomiting occasionally accompanied the frequent bowel evacuations. The stools were small, liquid, brownish in color, and gave reaction for blood pigment. No parasites were found. Urinalysis and differential blood-count showed nothing of interest. The Wassermann reaction and blood-cultures were negative. This patient showed marked mental enfeeblement, but dementia was not deepened after the development of pellagra. She was conscious and recognized friends who visited her a few hours before death on Aug. 7, 1911.

Necropsy was done five hours after death. The condition to attract attention on inspection of the abdominal viscera was the very intense engorgement of all mesenteric vessels, giving to the intestinal wall a strikingly reddened, purplish appearance. The mesenteric lymph-nodes were markedly enlarged and of a soft pinkish color, resembling inflamed lymph tissue. The mucosa of the lower quarter of the esophagus and of the entire stomach showed a catarrhal inflammation of varying degree. The duodenum was distinctly hyperemic, while the mucous membrane of the jejunum and ileum was markedly inflamed. This condition varied in degree and became more intense in the lower portion. Peyer's patches were swollen. The appendix appeared normal. The inflammatory condition extended to the cecum and for several inches along the ascending colon; areas of congestion were observed along the transverse colon. The mucosa of the descending colon, sigmoid and rectum was about normal. No ulceration was observed.

Microscopic examination of sections of the stomach wall showed superficial necrosis with extensive destruction and exfoliation of glandular epithelium, infiltration between the gland tubules, frequently hemorrhagic, with cystic dilatation of the gland tubules. The vessels in the submucosa were greatly dilated and atrophy of the muscular layers was noted. This destructive process was not so far advanced at the cardiac as at the pyloric portion, where necrosis and hemorrhagic extravasation were very marked. In the pyloric portion the deeper branching parts of the tubules retained their epithelium, but in the superficial portion this was shed off, leaving a structure composed of areolar tissue, infiltrated with round cells and showing superficial necrosis.

Sections from the duodenum showed superficial destruction of the mucosa, the villi being fused together in a structureless mass with beginning necrosis. Except for some remnants at the bottom of the crypts of Lieberkühn, all glandular epithelium was lost. Brunner's glands were not involved.

Sections from the jejunum showed similar superficial exfoliation, but the form of villus could still be seen. At the bases of the crypts there were small remnants of epithelium, but on the tips of the valvulae conniventes necrosis extended to the submucosa. The muscular coats appeared normal except for infiltration between the layers.

In the lower portions of the ileum there was almost entire destruction of the mucosa; only in areas were epithelial remnants seen, a narrow line of partially necrotic tissue being left to mark its location. The muscular layers were atrophied so that in this region the intestinal wall was extremely thin. Sections taken from the cecum and ascending colon showed a destructive process similar to that in the ileum.

Case 3.—A woman, aged 40, was admitted to this institution in an advanced stage of pellagra. Skin lesions of pellagra extended over the dorsal surfaces of both hands and wrists, small areas were present on the back of the neck and on the left ear, and an extensive lesion involved the vulva and the entire perineal region, extending up the inner surfaces of both thighs. The mucous membrane of the mouth and tongue was universally reddened with a few superficial ulcers; the tongue was swollen, showing marked indentations from the teeth. An excessive flow of saliva filled the mouth and overflowed in a constant stream. Involvement of the digestive tract was further evidenced by abdominal pain, diarrhea and complete loss of desire for food. The diarrhea was constant and uninfluenced by treatment. Differential blood-count, Wassermann reaction and blood-culture were negative. Death occurred seventeen days after admission.

Necropsy was performed two and one-half hours after death. A hyperemic condition was noted in all the abdominal viscera. The mucosa of the esophagus was apparently normal. A catarrhal inflammation was present along the entire tract from the stomach to the cecum, most intense in the lower ileum and cecum, where there were many areas of submucous hemorrhage. The transverse and descending colon, sigmoid and rectum were about normal.

Microscopic examination of sections from the stomach wall showed superficial necrosis and exfoliation; the deeper portions of epithelium were still intact. The vessels were greatly dilated and numerous small hemorrhages into the mucosa were seen. Sections taken from different areas along the jejunum and ileum showed the same loss of epithelium, with only small remnants in the bottom of the crypts. In some places the villi retained their form; in others they were fused into a structureless mass. The muscular layers of the ileum were greatly atrophied. Specimens from the colon appeared to be about normal, except that in the cecum the catarrhal inflammation was very intense.

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[9] Roberts: Pellagra, p. 107

CASE 4.—A woman, aged 59, had been a patient in this institution for the past three and one-half years, with no history or evidence of a previous attack of pellagra. About Oct. 1, 1911, there appeared on the dorsal surfaces of both hands and lower forearms areas of dermatitis resembling sunburn; other lesions appeared on the right shoulder and on the side of the neck, and, as exfoliation progressed, the dark, purplish color with brighter red border gave the typical appearance of skin lesions of pellagra. Diarrhea began in a few days and continued with only slight remissions. An almost constant abdominal pain was complained of and a burning sensation, localized to the areas of dermatitis and to the mucous membrane of the mouth, was present, the sensitiveness of the latter interfering with the taking of food. The tongue and the mucous membrane of the mouth had the characteristic red, glazed appearance and there was present the same excessive flow of saliva. The feces were constantly liquid, of a brownish color and contained some mucus and varying amounts of blood. No parasites were found. Examination of the cerebrospinal fluid, differential blood-count and the Wassermann reaction were negative. Death occurred about two months after the first appearance of the disease.

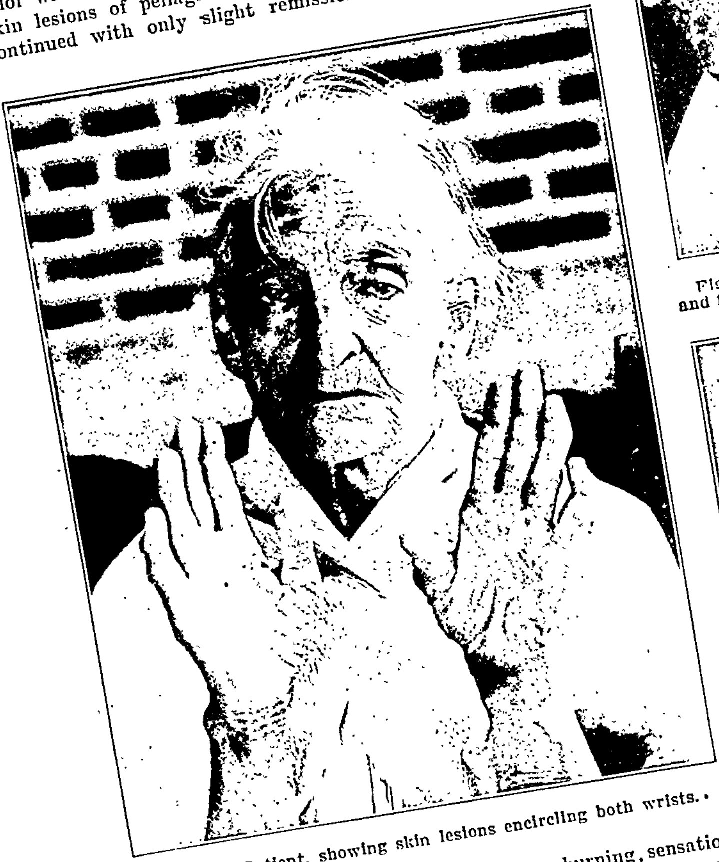
Fig. 1.—Patient, showing skin lesions encircling both wrists.

Necropsy was performed fourteen hours after death. There were skin lesions on the dorsal surfaces of both hands, over almost the entire face and ears and on the right side of the neck and right shoulder. A condition of hyperemia of the abdominal viscera similar to that noted in the previous cases was present. The gastric mucosa was about normal. The tinal tract from the duodenum to the hepatic flexure of the colon presented a catarrhal inflammatory condition of varying degree, quite marked in the duodenum and jejunum but most intense in the lower ileum and cecum, becoming hemorrhagic in some areas. The lower colon and rectum were only slightly affected.

Sections from the wall of the jejunum showed fusion of the villi into a necrotic mass and only the epithelium lying deepest in the crypts, intact. There was round-cell infiltration into stroma of villi and between crypts. The muscular layers and the mucosa along the ileum were atrophied. This superficial erosion was not so marked in the cecum, but there was much extravasation of blood into the mucous membrane. The lower portions of the intestinal tract were only slightly

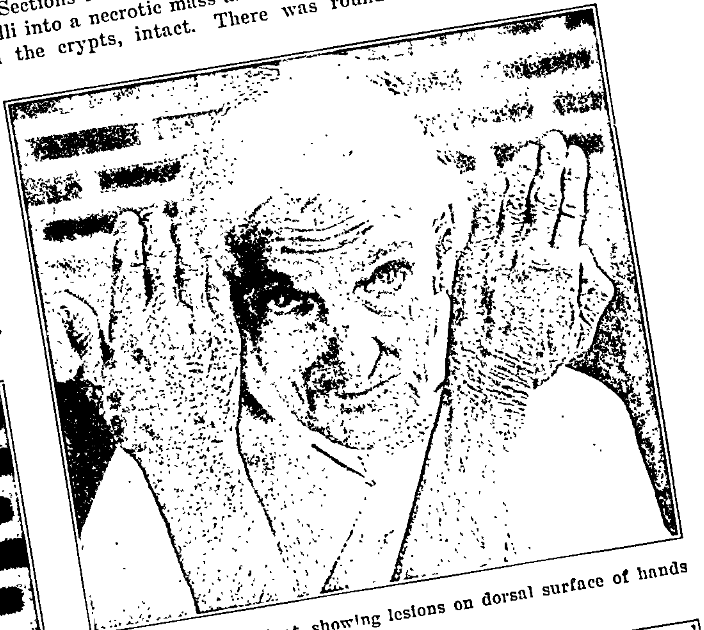
Fig. 2.—Same patient, showing lesions on dorsal surface of hands and fingers and on the forehead.

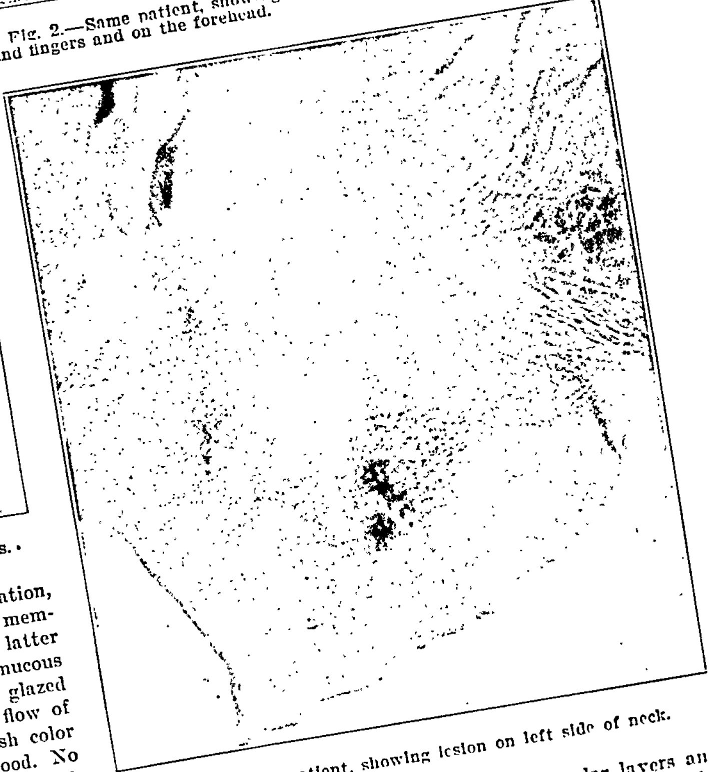
Fig. 3.—Same patient, showing lesion on left side of neck.

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that the findings would correctly represent the condition present. On the whole, the changes found were those of a chronic catarrhal inflammation, but in some areas the condition was very active and closely corresponded to the description given by Coplin[10] of hemorrhagic inflammation of mucous membranes. Many of the sections gave a picture very similar to his illustration of hemorrhagic colitis from colchicum poisoning.

These findings would seem to coincide with the theory that toxic products cause pellagra, whether taken with food products or of endogenous origin. In the cases observed, no probable causative factor in the food could be found.

A NEW ETHER-VAPORIZER

A PRELIMINARY REPORT ON THE TECHNIC OF INTRAPHARYNGEAL INSUFFLATION ANESTHESIA

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The vaporizer (Fig. 1) herein described was devised to supply certain deficiencies in preexisting types of vaporizers for insufflation anesthesia. These deficiencies are inaccurate knowledge of the amount of air passing and of the percentage of ether vaporized. The present vaporizer indicates at all times the amount of air passing and makes possible the mathematical control of the ether percentage. Only by such knowledge can control and accuracy of dosage be secured and the effect of a given dose be foretold. Otherwise the patient must be used as the primary index of the amount of ether being delivered.

The essential feature of this apparatus is a device whereby the total air delivered is at all times indicated. It consists of an inverted aluminum cup (1, Fig. 2) riding in a glass tube (2, Fig. 2) on a central rod (3, Fig. 2). This rides at increasing heights as the air-stream, flowing from below, becomes more forcible, and is comparable to the familiar glass ball riding on a water-jet in a shooting-gallery. The float is of such weight, and the air-delivery hole of such size, that the float begins to ride on a delivery of 8 liters (nearly 8½ quarts) of air per minute, and indicates with fair accuracy, by the increased height at which it rides, all passage of air up to 22 liters (about 23¼ quarts) per minute, which is the range of utility in insufflation anesthesia. The float registers by its average height not only the amount of air passing, but by its fluctuation the respiratory movement of the patient. It drops instantly on any stoppage of the air-stream, as for example by a kink in the tube.

On the glass tube which houses the float, is engraved, at convenient levels, the number of liters of air passed per minute. Also opposite each level is engraved the number of drops of ether necessary to add per minute to make the air-ether mixture 14 per cent. by weight, with the float riding opposite that particular level, and also the number of drops which would make a 1 per cent. mixture. The amount of air used is thus constantly visible, and may be controlled in volume by adjusting a pinch-cock on the air-delivery tube, while the percentage of ether may be adjusted to any amount desired by controlling the number of drops of ether added per minute.

The ether is held in a reservoir of 250 gm. (half a pound) capacity (*B*, Fig. 2), patterned after a standard high-pressure oil-cup, wherein the drop of ether (4, Fig. 2) may be seen and accurately controlled by a screw-valve (5, Fig. 2). The reservoir is filled from the top (6, Fig. 2), and thrown into air-circuit with the vaporizing-chamber by an air-valve (7, Fig. 2). It is mounted on the vaporizing-chamber (*C*, Fig. 2), a heavy glass cylinder, 4 inches by 4 inches. The ether drops onto the copper bottom of the vaporizing-chamber, which is kept at a temperature merely warm to the hand by a 4-inch electric stove (*D*, Fig. 2), with adjustable heat. In the absence of electricity the stove and bottom of the vaporizer may be immersed in a pan of warm water. The ether immediately vaporizes on this warm surface and diffuses into the air, passing through the chamber, the resultant being warmed to from 25 to 30 C. (77 to 86 F.)

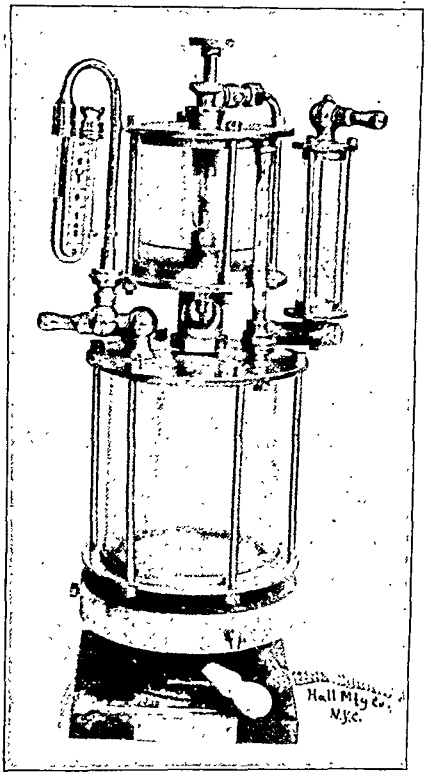

Fig. 1.—New ether-vaporizer.

A mercury pressure-gauge (*E*, Fig. 2), a thermometer (*F*, Fig. 2) and a safety-valve (*H*, Fig. 2) are mounted on the chamber.

The float has been calibrated by passing from a high-grade-test gas-meter accurately measured amounts of air, and registering each increase of 4 liters (4¼ quarts) per minute by a horizontal line on the glass tube housing the float.

The drop has been measured by repeated count, averaging under the condition of this vaporizer 29.3 drops per cubic centimeter or 41 drops per gram.

Knowledge of the amount of air which floats the aluminum cup at a particular level enables one to calculate the weight projected each minute at the cup. It is then a problem in simple arithmetic to arrive at the number of drops of ether to be added to the air-ether mixture whereby the percentage of ether-vapor by weight will be any selected amount.

Omitting the complex physical formulas and mathematical problems by which these results have been arrived at, and noting merely the results of the estimation: Dry air at 0 C. (32 F.) weighs 1.2928 gm. The conditions in the air used for calibration were those under which air would usually be delivered to the vaporizer: temperature at 22 C. (71.6 F.) under 30 mm. positive pressure and a water-vapor content of 1.5 per cent. by volume. Under these conditions the weight of air is 1.238 gm. per liter of air. If, for example, the float registers by its height the equivalent of 16 liters of air per minute, the equivalent in momentum of 19.84 gm. is projected at the float. Then to give 14 per cent. ether vapor, liquid ether running 41 drops to the gram, an amount of 114 drops of ether per minute would be added to the air-stream with the float at the 16-liter level. The resultant of these calculations is registered on the scale from the 8-liter to the 22-liter level, so that the ether and air delivery can be adjusted to any desired total by volume, and any desired percentage by weight, by reading the figures and setting the air-current and ether drop accordingly. Similar calculations may be made for chloroform.

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[10] Coplin: Manual of Pathology, p. 561.

The heat needed for vaporization of the average ether used is about 15,000 calories per hour, and is provided not for the purpose of administering to the patient warm vapor, but merely to volatilize promptly the liquid ether. Air itself does not carry sufficient heat to ensure prompt vaporization, for in vaporizing 14 per cent. by weight of liquid ether, the mixture is depressed 47.5 C. (85.5 F.) Therefore external heat must be provided for control of ether vaporization and to prevent the precipitation of much useful moisture from the air by refrigeration. Any idea of delivering vapor to the patient above room-temperature must be abandoned as unfeasible, as the following experiment will show. Air (specific heat 0.2831), superheated 24 C. (43.2 F.) above room-temperature, that is 22 C. (71.6 F.) or to 46 C. (114.8 F.) and delivered through red-rubber tubing, flowing at a velocity of 18.4 linear feet per second, lost of the superheat 7° C. in the first foot, 5° in the second, 5° in the third and 4° in the fourth, being a total loss in four feet of 21° of the 24° of superheat. Of the remaining three degrees, two degrees more, or 23° in all, were lost by the eighth foot, and 23.8° by the fourteenth foot. These figures were obtained by observation of chemical thermometers inserted at 1-foot intervals along 14 feet of red-rubber tubing size 5/16-inch, wall 5/32-inch thick. The readings both for air and for 14 per cent. air-ether mixture covered a period of thirty minutes, during which no material decrease in the rapidity of heat loss was observed.

The ability to dose the patient accurately with air and with ether has rendered anesthesia by intratracheal insufflation by the Meltzer-Auer method, as developed for man by Elsberg, ideal except for the difficulties of intubation. It was to overcome the procedure of intubation that the pharyngeal method of anesthesia of Junker and others has been developed at the Roosevelt Hospital to a point where it has practically all the advantages with none of the complexity of intratracheal insufflation. The essential feature of this method is that a known quantity of air containing a known percentage of ether vapor is delivered into the pharynx, a quantity sufficient entirely to supply the need of the patient for air on inspiration, and of the lowest ether percentage which will hold that patient lightly and evenly anesthetized. Thus in the routine case light, even anesthesia is accomplished, and the possibility is avoided of negative pressure in the pharynx, which, by sucking back the mucus of the nose and mouth, is chiefly responsible for the "ether" pneumonia.

To exclude air from the outside which would dilute and render inaccurate the dosage of ether, an amount of from 16 to 18 liters (from 17 to 19 quarts) per minute must be insufflated in the adult. This amount can be delivered by a pressure of from 25 to 30 mm. through two small catheters, soft rubber, 16 F, passed one through each nostril of a patient in whom primary anesthesia has already been induced. The open end and double islet of each tube should rest in the lower part of the pharynx at a level of the epiglottis, a distance from the nasal orifice of about 12 cm. On expiration twice the usual amount of air is expired; that is, the tidal air from the glottis and the ether-laden air delivered through the catheters during this portion of the cycle. Hereby the mouth, nose and pharynx are kept free from mucus and from the blood of any operation on these parts, practically with the same efficiency as in intratracheal insufflation. The patient sleeps the same quiet sleep that marks intratracheal anesthesia. The jaw or head rarely has to be adjusted and may be twisted into position which in ordinary anesthesia would obstruct respiration, although not to the extent that may be done in intratracheal insufflation. The absence of so-called operative shock is notable, as with the intratracheal method.

Positive pressure on the respiratory tract may be obtained easily, by the anesthetist clamping the nose and lips of the patient with his hand until the cheeks bulge constantly and the air blows out continually between the fingers. Simultaneously the larynx must be firmly pressed back by finger or weight on the cricoid cartilage, blocking by pressure on the esophagus the ingress of air into the stomach. Positive pressure of from 5 to 25 mm., as gauged by a manometer in the pharynx, is thus easily maintained. and the patient continues to breathe smoothly. At about 10 mm. the excess of air blows out between the lips unless they be very tightly held. Greater pressure is unnecessary since 5 mm. is all that is required to prevent collapse of the lung in intrathoracic surgery. In the routine insufflation, the insufflated air is allowed to escape freely by nose and mouth. If air be swallowed or insufflated into the stomach the patients do not breathe smoothly, and higher percentages of ether become necessary to secure relaxation; but as practically no positive pressure is created in the pharynx in routine insufflation, blocking of the esophagus is necessary only in intrapulmonary work. The stomach does not become inflated with air unless one of the following two errors in technic has been made: The first error is to begin insufflation before the swallowing-reflex is abolished. The tient sh be anesthetized primarily by a face-i the l

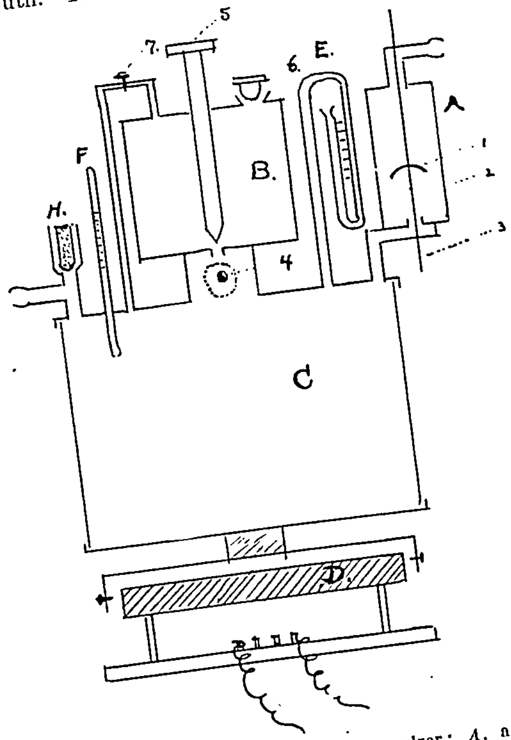

Fig. 2.—Working details of ether-vaporizer: *A*, air-indicator; *B*, ether-reservoir; *C*, vaporizing-chamber; *D*, electric stove; *E*, mercury pressure-gauge; *F*, thermometer; *H*, safety-valve; 1, inverted aluminum cup; 2, glass tube; 3, central rod; 4, drop of ether; 5, screw-valve; 6, opening for filling with ether; 7, air-circuit. Stock articles of commerce are chiefly used in the various parts on account of the cheapness and durability of such articles and the ease with which they may be replaced.

ning of surgical relaxation before insufflation is instituted. The second error is to pass the tubes into the beginning of the esophagus. The tubes should never be passed further than the following measurements: Mark off on the catheter the distance from the ala of the nose to the corresponding auditory meatus of that individual and insert the catheter only to that measurement which will carry it in behind the epiglottis but not into the grip of the esophagus. On the other hand, if the tubes be not passed into the lower pharynx, the air supplied is not freely available for inspiration.

For a few minutes after the introduction of the tubes it is well to hold the mouth closed and the jaw forward as one does with a face-inhaler. Soon, however, the stertor of the usual anesthesia quiets to a natural unobstructed respiration, and the jaw and mouth can be neglected. Usually, in fact, so smooth is the delivery and quiet the sleep that it would be perfectly feasible with this, as with the intratracheal method, for the operator to adjust the tubes and the air-ether delivery, and then proceed with the surgical operation without the presence of any anesthetist, as one does by insufflation on the animal in the laboratory of surgical research.

Patients take the same percentage of ether whether the ether is delivered copiously by the intrapharyngeal method, or by the intratracheal method. This percentage has proved remarkably constant on the average. A patient having first been placed under primary anesthesia to the stage of abolition of the pharyngeal reflex by a closed or open face-inhaler, the usual percentage by weight of ether necessary to maintain by insufflation, light, even, surgical anesthesia has proved for the first five minutes of surgical anesthesia to be 18 per cent.; for the next twenty-five minutes, 14 per cent.; throughout the second half-hour, 12 per cent.; through the second hour, from 12 to 8 per cent. Alcoholics, athletic fat persons, thick-set negroes, certain patients at puberty, athletic young adults between 18 and 26 years of age, and patients requiring operative manipulation in the upper abdomen average 4 per cent. higher than this throughout the first half-hour, children and relaxed women run about 2 per cent. lower. Of course the quantity must meet the entire demand of inspiration, without dilution by outside air, for these figures to hold true.

In the average adult about 960 liters (a thousand quarts) of air and about 165 gm. (5½ ounces) of ether are delivered in the first hour of surgical anesthesia. Of the total vapor less than half is utilized to maintain a constant intrapulmonary ether percentage by being inspired; the rest is wasted through the expiratory and apneic period, doing work only to clear the upper air-passage. Rebreathing is not contemplated or countenanced in this method.

The air-supply at Roosevelt Hospital is from an efficient permanent equipment.[1] As a portable source, a foot-bellows with gas-reservoir is fairly satisfactory, as is a small motor-driven rotary blower.

Fuller details of pharyngeal insufflation, as applied to ether and to nitrous oxid-oxygen will be published soon, with tables of ether percentage required by man.

I wish to express my indebtedness to Drs. Charles H. Peck and Charles N. Dowd, on whose services at Roosevelt Hospital the methods herein described have been developed, and the ether-air requirements observed on a total of about 350 cases of intratracheal insufflation anesthesia and 250 cases of the intrapharyngeal type.

63 West Forty-Ninth Street.

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[1] Described in the International Hospital Record, November, 1912.

PERINEORRHAPHY WITH THE FIGURE-OF-EIGHT SUTURE

CHARLES G. CHILD, JR., M.D.
Professor of Gynecology, New York Polyclinic Medical School; Attending Gynecologist to the City Hospital
NEW YORK

The following method of suturing in cases of perineoplasty may not be original, though I have never seen it described. If, however, it is not new I feel that I need hardly make further apology for re-presenting so valuable a bit of operative technic.

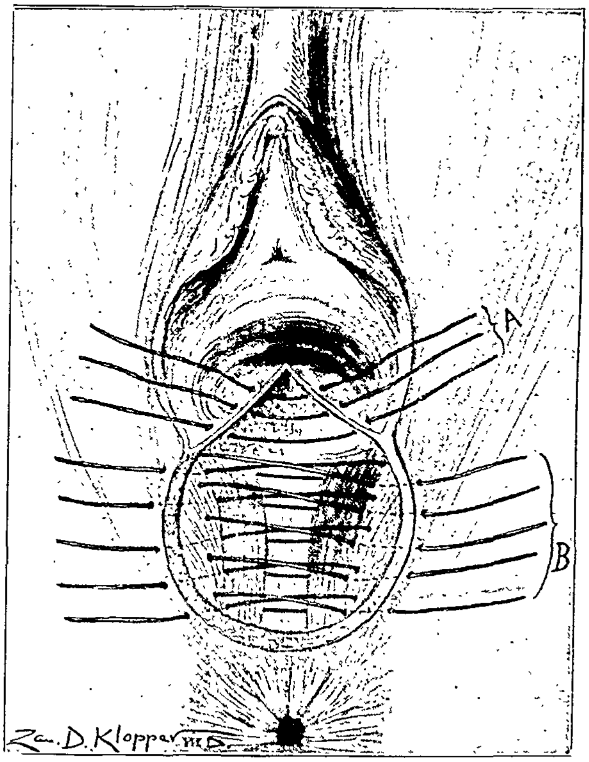

Fig. 1.—The figure-of-eight sutures at B unite the levator ani and perineus transversus muscles as well as the skin. The sutures at A approximate the cut edges of the vagina.

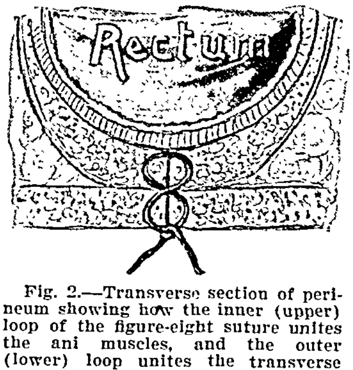

Fig. 2.—Transverse section of perineum showing how the inner (upper) loop of the figure-eight suture unites the ani muscles, and the outer (lower) loop unites the transverse perineus muscles and skin. The knot is on the skin surface.

In a thorough trial on all classes of cases I have found the results uniformly so much better than with the older methods that it seems to me a distinct advance.

The choice of a suture material for use in cases of perineal repair is of some moment, and second in importance only to the method of introducing the sutures. I have long since discarded absorbable material such as catgut and kangaroo-tendon on account of the uncertainty of absorption, varying tensile strength and low power of resistance to infection. Of the non-absorbable materials the so-called silkworm-gut, because of its uniform strength and pliability, makes the ideal suture for this work. The extra large strands should be used and preferably those that have been dyed. They should be well softened in water before use.

METHOD OF INTRODUCTION

The vaginal sutures are passed and tied in the usual manner. In the perineum a figure-of-eight suture is used, the first bite of which catches up the levator ani muscles, and the second bite the transverse perineus muscles and skin. Care should be taken in tying these sutures not to bring them too tightly together, or they will cut deeply into the tissues and be difficult to remove. The tissues included within their grasp are to be just snugly approximated—no more.

The ends are left long and all sutures are removed on the tenth day.

ADVANTAGES

1. High percentage of primary union.
2. Perfect approximation with the obliteration of all "dead" space.
3. Fewer sutures with a consequent minimization of interference with nutrition to the tissues.
4. No buried sutures of uncertain strength and questionable sterility, with a low power of resistance to infection and an uncertain period of absorbability, but removable sutures of unquestionable strength, nonabsorbable, non-infectible and absolutely sterilizable.

163 East Seventy-First Street.

THE CONGENITAL ABSENCE OF RIBS

REPORT OF A CASE WITH COMPLETE ABSENCE OF THE LEFT SEVENTH AND EIGHTH RIBS*

CARROLL SMITH, M.D.
ST. LOUIS

The congenital absence of ribs seems to be a rare condition. Supernumerary ribs, especially in the cervical region and less frequently in the lumbar region, are more often seen. Bicipital ribs are occasionally found and usually occur at the first rib.

The congenital arrest in the development of the ribs is more frequent than the arrest of formation or the complete absence of the ribs. The arrest of development is generally manifested at the costal cartilages and the anterior parts of the ribs. It does not occur at any constant level. The defect is generally unilateral, and the first rib is usually unaffected.

As a rule defects of the ribs do not occur alone. There is usually some corresponding failure of development in the vertebral column. The scapula, the muscles of the thoracic wall, and the pleura are also frequently involved. Scoliosis is often present. These patients are generally born with a straight spinal column, but later it becomes bent by muscular action, early in life or at the time when the patient begins to walk. Usually some axial rotation develops in the vertebral column, as well as compensatory curves in the lumbar and cervical regions. Pulmonary hernia may be present.

After a careful search of the literature I am able to mention nine cases showing the complete absence of one or more ribs. The titles of many articles are misleading. They imply that there is a complete absence, when only a defect of a rib is present. Few of these cases were subjected to an *x*-ray or post-mortem examination, so it is possible that non-palpable rudiments of ribs may have been present in some of them.

Packard[1] reports a case of a woman aged 39, with eleven ribs on each side. The post-mortem examination by Dr. S. W. Mitchell showed that the left fourth rib was broadened anteriorly and was united to the sternum by a broad cartilage, which was perforated by a round hole so as to indicate its normal double state. On the right side the fourth rib was broadened at the anterior end.

Gripat[2] describes an acephalic monster with nine ribs on the right side and seven on the left. On the right side the first rib was attached to the middle of the second rib by a ligament. The second and third ribs were united behind at the vertebral column, but were separated in front and attached to the sternum. The fourth and fifth ribs were formed in the same manner as the second and third. The sixth, seventh, eighth and ninth ribs were free anteriorly, but articulated normally with the vertebral column posteriorly. On the left side the first, second and third ribs were united posteriorly, and this common osseous structure was traversed by holes for the nerves. The fourth rib was twice the width of any of the others. The fifth, sixth and seventh ribs were separated and had no anterior attachments.

Gage[3] mentions a girl aged 17, with five ribs absent on the left side. The first, second, third, fourth and fifth left ribs were normal. The sixth rib was represented anteriorly by its costal cartilage which joined the fifth rib. No trace could be found of the left seventh, eighth, ninth and tenth ribs. The eleventh and twelfth ribs were normal. There were twelve dorsal vertebrae. There was no curvature of the spinal column at birth; but a scoliosis in the middorsal region, with the convexity toward the normal right side, developed about the fifth year. There was a compensatory curve in the lumbar region. The angles of the ribs were prominent on the right side, due to a marked horizontal rotation of the vertebral column. There were no other such cases in the family.

Gage[3] also mentions a case which was reported by Willet and Walsham to the Royal Medical and Chirurgical Society (in 1880). There were only five ribs on the right side and four on the left, and four and one-half dorsal vertebrae were absent. There was a lateral curvature of the spine with the convexity to the left, which they believed to be due to the absence of the right half of the third dorsal vertebra.

Sabrazès[4] reports the case of a girl aged 2, in whom the sixth and part of the seventh ribs were absent. The left first, second, third, fourth and fifth ribs were normal. The sixth rib was absent. The seventh rib was represented by a broad cartilage anteriorly. The eighth rib was composed of two bony rods side by side, which were fused together posteriorly. The cartilage joining these rods to the sternum anteriorly showed traces of being divided. The ninth rib was bound in front to the eighth by a thick cartilage. The tenth, eleventh and twelfth ribs were floating.

Murray[5] describes a patient aged 5, with complete absence of the eighth, ninth and tenth ribs on the left side. The left eleventh rib was smaller than the corresponding right rib, while the left twelfth rib was longer and larger than the right twelfth rib. The defect in the thoracic wall between the seventh and eleventh ribs was 6.25 cm. wide in the axillary line.

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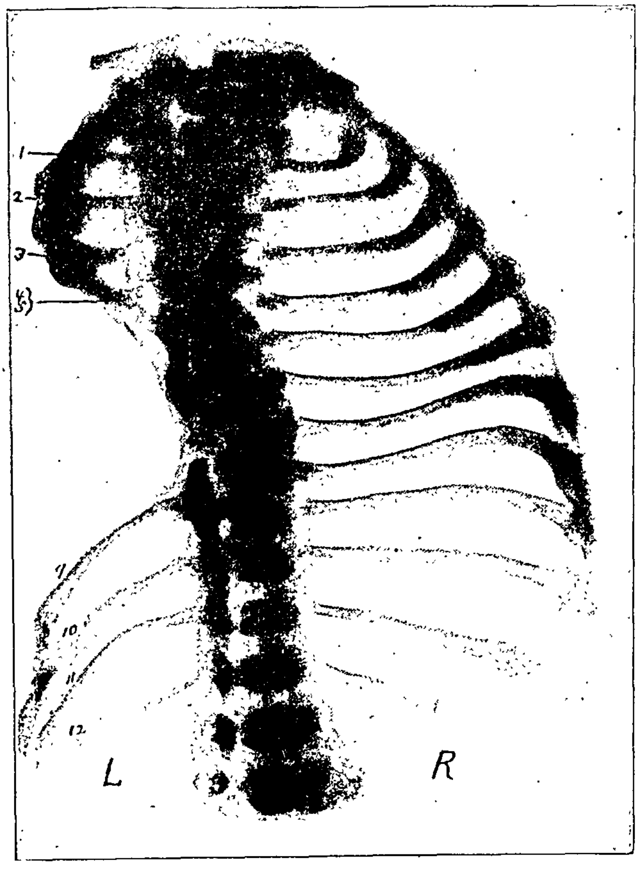
* Read before the St. Louis Medical Society, Oct. 19, 1912.
the Department of Anatomy, St. Louis University.

1. Packard: Proc. Path.
2. Gripat: Bull. Soc. a
3. Gage: New York M
4. Sabrazès: Rev. de
5. Murray: Tr. Clin.

Freund[6] describes an infant of 8 weeks, in which the right fourth, fifth and sixth ribs were found completely absent on palpation. There was a deep groove at the level of the left mamma, 4 cm. wide, extending from the sternum to the vertebral column.

Labbé[7] describes a full-term infant which died at birth. An autopsy showed twelve ribs on the right side. On the left side there were only eleven ribs. The fifth and sixth ribs were welded together, as were also the seventh and eighth. The infant also had an umbilical hernia, a congenital scoliosis, a spina bifida, bilateral congenital dislocation of the hips and club-feet, and there was an absence of the genital organs and bladder.



Skiagram showing congenital absence of ribs in an infant.

Gladstone[8] mentions a case in which the twelfth ribs were absent on both sides. The patient had seven cervical, eleven thoracic and six lumbar vertebrae.

In addition, I desire to report the following case:

L. R., female, aged 4 days, was brought to the outpatient department of the Alexian Brothers' Hospital on account of a deformity of the thorax on the left side. The infant was apparently otherwise perfectly developed. The baby had a transverse furrow just below the left nipple which extended from the vertebral column to the sternum. The flexed upper extremity fitted accurately into the depression. The area was covered by normal skin over a firm, fascia-like tissue. On respiration there was bulging and retraction of the thoracic wall over the defect, which was especially marked on crying. On careful palpation no signs of ribs could be detected in the defective region. The heart pulsation could be felt at the upper part of the depression. The right side was normal. The left arm was in no way abnormal, nor were any abnormalities found in any other region.

On the eighth day after birth the child died. A post-mortem examination showed the cause of death to be pneumonia. The entire bony and cartilaginous thorax was removed, as well as the thoracic and abdominal viscera, the left scapula, brain, cord and lower end of the humerus. The thorax was normal on the right side. On the left side the first, second and third ribs were normal, except that they seemed jammed together and compressed laterally. The fourth and fifth ribs were fused together. At the costochondral articulation this bony structure became broader and was attached to the sternum by two cartilaginous bands. About 1.5 cm. of the sixth rib, attached anteriorly to the same length of cartilage was found in the thoracic wall without any connection of the rib or cartilage to the vertebral column or sternum. The seventh and eighth ribs and their cartilages were entirely absent. The spinal column was defective on the left side at the level of the sixth and seventh ribs and was covered with smooth pleura at the place where these ribs should normally be attached. The ninth, tenth, eleventh and twelfth ribs were floating. The xiphoid process was bifid. A slight scoliosis, with the convexity to the right, was present in the spinal column at the level of the defective region.

The accompanying skiagram clearly shows the scoliosis, the defective vertebral column and the complete absence of any vestige of the sixth, seventh and eighth ribs at the posterior region.

Dr. Abraham Myerson examined the other specimens removed, and found a scaphoid scapula (Graves), a patent ductus arteriosus and an open foramen ovale. Microscopically, syphilitic periarteritis was seen in nearly all the viscera and a double central canal of the spinal cord was found in the thoracic region. The bones showed no changes. Levaditi's stain for spirochetes was negative. Dr. Myerson also made a careful study of the father, mother and six children of the family, and found undeniable evidence of a syphilitic taint in all of them. The father gave a positive Wassermann reaction. There were no such defects of the ribs in any of the other members of the family. This phase of the case will be made the subject of a special study by Dr. Myerson.

The etiology of such anomalies is obscure. Ballantine[9] states that "there is a large amount of evidence in favor of the view that some malformations of the chest-wall may be due to the pressure of the arm of the fetus in antenatal life." The muscles, mammary gland, nipple, subcutaneous fat and hair of the affected region may be involved in addition to the ribs. The hand, forearm and arm may also be defective. Ballantine believes that this association is explicable if the teratogenic cause be pressure.

Thomson[10] made a careful study of a series of cases with congenital arrests in the development of the ribs, and has pointed out that these defects do not correspond to anything in the normal course of development and cannot, therefore, be regarded as an arrest of the same nature as mesial fissure of the thorax or abdomen. Thomson also mentions that nearly all of the structures in the lower pectoral region are prone to be affected and in a manner having no relation at all to their vascular or nervous supply. This author was led, therefore, to the conclusion that "the fetus was so acted on *in utero* that its arm was kept for a long time pressed firmly against its side and that in consequence of this continued pressure, not only was the growth of the parts retarded, but the absorption of some of them was brought about."

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[6] Freund: Quoted from von Bergmann-Bull.: System of Practical Surgery, New York, 1904, ii, 449.

[7] Labbé: Quoted by Legendre: Les Malformations costales par défaut, Thèse, Lyons, 1906, p. 53.

[8] Gladstone: Jour. Anat. and Physiol., 1911-1912, xlvi, 220.

[9] Ballantine: Antenatal Pathology and Hygiene, New York, 1905, ii, 148, 471.

[10] Thomson: Teratologia, 1895, ii, 1.

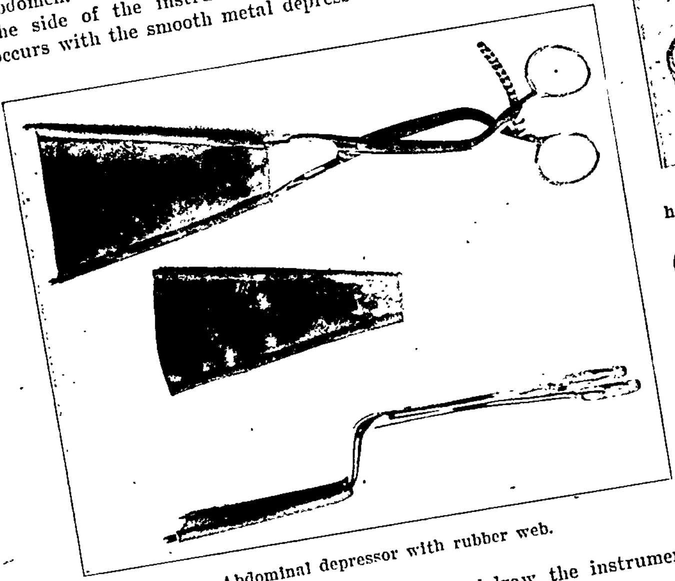
In the case which is here reported, the upper limb fitted accurately into the defect. The compression of the upper intercostal spaces and the fusion of the fourth and fifth ribs seem to indicate that pressure was present. The absence, however, of arm, forearm, or hand deformities, and muscle and breast changes, the presence of the scaphoid scapula, the double central canal of the cord, the patent ductus arteriosus, the fact that there seemed to be no attempt at development of the seventh and eighth ribs and the hereditary syphilitic taint, lead one to believe that the condition was due to an inherent defective development.

537 North Grand Avenue.

A VISCERAL DEPRESSOR

David Hadden, M.D., Oakland, Cal.

The illustration represents a device intended to take the place of the tablespoon or the trowel in the closure of the abdomen. The rubber web keeps the bowel from bulging to the side of the instrument and getting in the way, which occurs with the smooth metal depressor. Further, there is the greater advantage of being able to withdraw the instrument through a much smaller opening.



Abdominal depressor with rubber web.

Used in the pelvis, being opened after insertion, it serves as an excellent retractor to hold the bowel back from the pelvic organs without force or the irritation of gauze. There is weight enough to have it retain its position. For this purpose, however, I am having made an instrument with only one bend, and that at right angles.

The rubber webs are replaceable, withstand boiling, and are moderate in price.

VISCERAL DEPRESSOR FOR USE IN CLOSING LAPAROTOMY WOUNDS *

L. Miller Kahn, M.D., New York

Assistant Surgeon, Lebanon Hospital

The device illustrated is a simple cloth triangle with a hem on the two long sides to permit the introduction of the blades of a curved dressing forceps. The base of the triangle is 3½ inches and the sides 5 inches. At the apex is sewn a piece of tape, 10 inches in length. This tape is to be fastened to one of the finger-rings of the handle, so that the triangle will not slip from the blades. The purpose of the instrument is readily understood from the drawing.

When an abdominal wound is ready to be closed, the instrument (forceps blades adjusted into triangle) is inserted, the points of the blades carried within the peritoneal cavity and brought against the under surface of the parietal peritoneum. The blades are now separated as widely as possible. This puts the cloth diaphragm on the stretch, and while retaining the viscera, permits of easy suture of the peritoneum, and the danger of piercing or suturing intestine or omentum in the wound is obviated. The suture of the peritoneum is carried down to the lock of the forceps and the forceps withdrawn, leaving the diaphragm within the peritoneum. The diaphragm is now withdrawn through the small opening and one suture placed in the opening. The instrument entire may be withdrawn if the operator so wishes. The device has been found very useful and much superior to the clumsy gauze pad used for the same purpose. One triangle is to be sterilized with each set of taped pads.

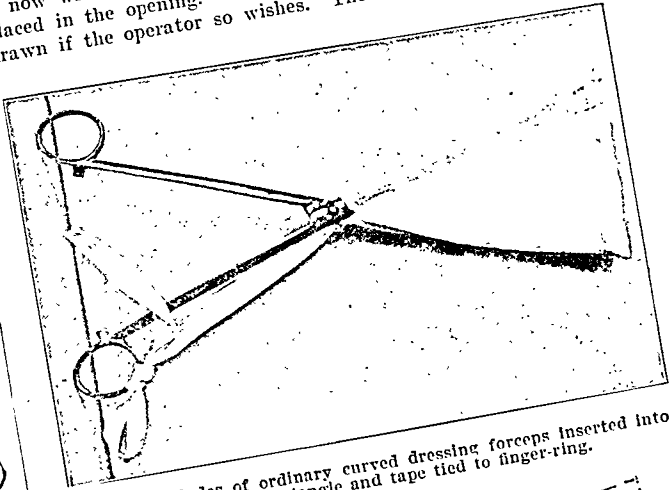


Fig. 1.—Blades of ordinary curved dressing forceps inserted into hems on sides of cloth triangle and tape tied to finger-ring.

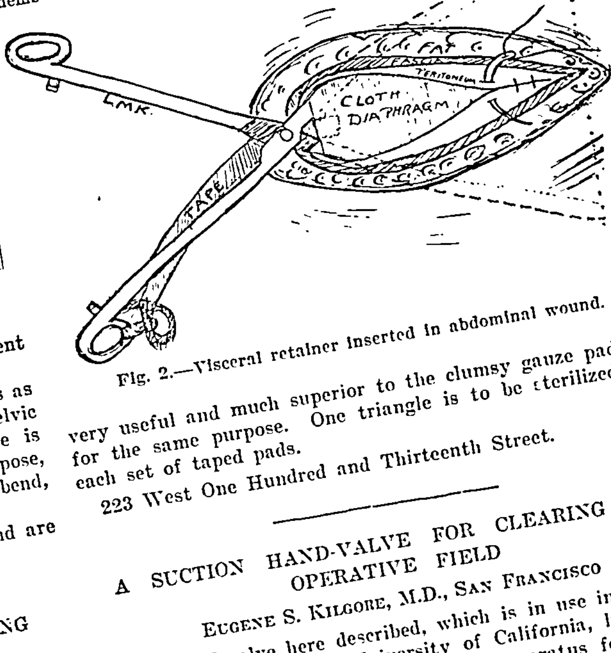


Fig. 2.—Visceral retainer inserted in abdominal wound.

223 West One Hundred and Thirteenth Street.

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* Presented before the Section on Surgery, New York Academy of Medicine, Nov. 1, 1912.

A SUCTION HAND-VALVE FOR CLEARING THE OPERATIVE FIELD

Eugene S. Kilgore, M.D., San Francisco

The hand-valve here described, which is in use in the Students' Infirmary of the University of California, has proved a convenient addition to the suction apparatus for clearing blood or other fluid from the operative field, especially in throat operations.

Negative air pressure is secured by use of the ordinary filter-pump or ejector attached to a water faucet (Fig. 1). The carboy (*b*) is added to the system to give greater duration to the suction when it is being drawn on, air being pumped out of it for several minutes before operation begins. The mercury manometer, which hangs on the wall of the operating-

INFECTION OF PHARYNX BY THE ASPERGILLUS NIGER

Frank A. Conlon, M.D., Lawrence, Mass.

The *Aspergillus niger* has been reported rather frequently as occurring in the outer ear, but, as far as I can find, after a careful search of the literature, it has never been observed previously in the pharynx.

My patient was a young man, 18 years old, whom I had been treating for chronic catarrhal otitis media. On inspecting his pharynx, I found it covered with a black glistening membrane which covered his whole pharynx and nasopharynx. This membrane was quite tough and could be lifted 4 or 5 mm. without rupturing, leaving an apparently normal mucous membrane underneath. A small part of this membrane was sent to the pathologic laboratory of the Boston City Hospital, where it was reported to be entirely made up of mycelium and spores of the *Aspergillus niger.* In spite of rather vigorous treatment, the *Aspergillus niger* could be demonstrated for weeks in the secretion of the pharynx. I find that infection by the aspergillus is rather a common disease in pigeon,[1] swan[2] and fowl.[3] It is a rather interesting point of etiology that two days before this membrane appeared the patient had been engaged in cleaning a hen-coop.

A USEFUL LAMPSTAND ATTACHMENT

E. M. Bixby, M.D., Pomona, Cal.

As an illumination for eye work more directly above the patient than could be obtained from the Coakley lamp at the side of the table was needed, the desired result was secured at small cost by having a blacksmith drill a quarter-inch hole through one leg of the stand and put in a link of quarter-inch iron (Fig. 1).

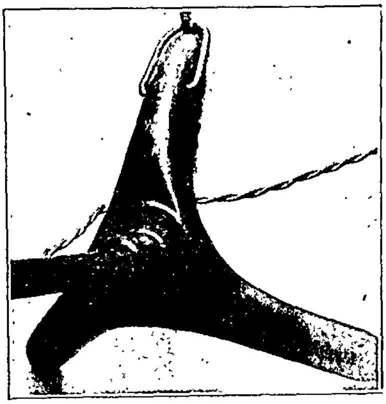

Fig. 1.—Stand of Coakley lamp with iron link in position.

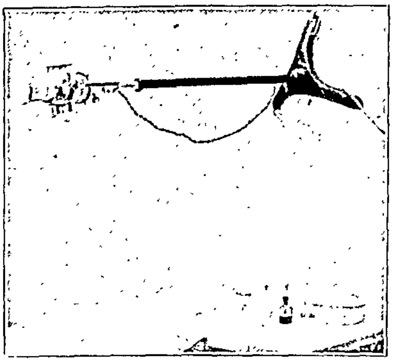

Fig. 2.—Lamp attached to wall over operating-table.

A stout hook was screwed in the wall at the proper height to bring the lamp about 18 inches above the table (Fig. 2).

The sliding extension and the pivoted yoke of the Coakley stand permit the lamp to be placed at any desired angle or to be pushed back out of the way while the patient is getting on or off the table.

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[1] Generali: Med. Veterinario, 1879.
[2] Schollskke: Schweiz. Arch. f. Thierheilk., 1887.
[3] Kit: Deutsch. Ztschr. f. Thiermed., 1881.

Start an Active Campaign Against the Filthy Fly Now.—Procrastination has such influence over some of your neighbors that they will need to study over the matter months before they can make up what they call "their minds" to do something, remarks *Nature and Culture.* Springtime and flytime wait for no man or suffragette.

Therapeutics

NEURASTHENIA

It is not the purpose of this article to discuss the treatment of this disease in all its details, but the subject deserves more frequent consideration than it receives. Few words in common use among physicians are more difficult to define accurately than neurasthenia. Such descriptive synonyms as "nervous exhaustion," "nervous prostration" and "nervous breakdown" are often used. Whatever name is applied to it, the condition termed "neurasthenia," which was first described by Dr. George M. Beard in 1869, has been almost yearly increasing in frequency, until now it is a common condition.

The term "neurasthenia" is often used inaccurately and erroneously, and is applied to a variety of diseases ranging from incipient tuberculosis to commencing general paresis; even mild forms of mental disease have been mistaken for simple neurasthenia. The diagnosis of neurasthenia is like that of malaria and influenza, a cover for carelessness, actual ignorance or lack of care in physical diagnosis. Hysteria is also often interchangeably mixed with neurasthenia.

The diagnosis of this disease can be reached only by careful investigation and physical diagnosis through excluding more tangible conditions. The symptoms so frequently simulate those of beginning organic disease, arterial disease and cardiac debility that the exclusion of these more serious conditions is often difficult. The most common symptoms include indisposition for physical exertion, impairment of memory, incapacity for the usual mental work, insomnia, irritability, mental depression, pains and other sensory disturbances in various parts of the body, especially in the top of the head and in the neck and back, palpitation with sometimes shortness of breath, and disturbances of digestion, such as dyspepsia, flatulence and constipation.

The causes of nervous breakdown are many. Perhaps the most important is improper mental work, either due to long hours, or to working too many hours in one position, or in one room, or with bad air or poor light, or under the strain of some nervous irritation, either external or internal. Unrecognized internal irritations are frequently reflex, due to eye-tire, or due to some troublesome and ever-insinuating chronic or recurrent pain, although such pain may not be sufficiently severe to cause the patient to stop his work. Another internal nervous cause which is now being recognized both in school and in the selection of operators and clerks in the various works of life, is their mental aptitude for the work required. Not only the child and the boy and girl, but also the adult will work easily for many hours and many days and months without nervous tire, provided that the work is pleasing and done without internal mental friction, so to speak; whereas, if the same person is required to do work that is intensely disagreeable or for which he has no aptitude, he is prone to nervous breakdown, and to fail both in perfecting and improving his work. In other words, one person works best with one part of his brain, another best with another part of his brain; one works best intellectually, another best with his eyes, another best with his brain mechanically directed, another best with fine movements with his hands and fingers, another with coarse movements of his hands and fingers, and still another best with larger muscle movements of the arms and legs. A person misplaced is prone to nerve-tire.

Another important cause of nervous breakdown is the combination of mental or physical activity, or both, with insufficient hours of rest, home worries, anxieties and the lack of home peace. In these conditions the person has no mental rest unless he is actually sleeping.

A frequent cause of neurasthenia, and one more frequently urged of late than formerly, is that of disturbance of the sexual functions. Some writers have even gone so far as to state that genuine neurasthenia is almost always due to abnormal sexual activity. This is certainly not true in this country, although there can be no question that sexual excesses, especially if abnormal, and sexual diseases and irritations are liable to cause at least temporary nervous breakdowns. It is easy to overwork this cause. A patient's fear that such causes are incurable and always lead to nervous breakdowns is harder for the physician to combat than the actual injury the patient has caused himself. Among the factors which present themselves for consideration in this connection are the effects of sexual excess and of total sexual abstinence, the most suitable age for marriage and the education of children in sexual hygiene. These phases of the subject are so broad as to demand separate consideration, and on some of them THE JOURNAL has already expressed its views. All must probably be taken into consideration, sooner or later, in the endeavor to prevent the ever-increasing nervous excitability and irritability of the age.

Another assigned cause of neurasthenia is the absorption of toxins, especially the putrefactive toxins produced chiefly in the intestinal canal. This cause is urged by those who believe in the uric acid irritation of the nervous system, that vegetarianism is a cure for all ills, and that anything which keeps the colon healthy will tend not only to keep the nervous system calm, but also to prolong life. Certainly this possible factor must be considered in deciding exactly how it is best to treat a patient with neurasthenia.

The various internal secretions are not sufficiently well understood for us to know how many of them, when imperfect, can cause nervous irritability. Hypersecretion of the thyroid gland is known to be an irritant to the central nervous system, but the causes of this hypersecretion are not sufficiently well understood. If this condition is diagnosed, it should be treated primarily, rather than the neurasthenia.

It is a fact that nerve-tire is increasing, and that it keeps pace with the increase in hypertension, arteriosclerosis and cardiovascular-renal disease. Neurasthenia is a disease of this rapid age; the growth of sanatoriums and private hospitals for the treatment of nervous breakdown is on the increase, and justifiably so, as these patients are better treated at these institutions than at home, if the institution is a reliable one.

In deciding that a patient has neurasthenia and not hysteria, hypertension and beginning arteriosclerosis, all other more tangible diseases having been excluded, the physician must make one of the most difficult of diagnoses.

Before considering the treatment of neurasthenia, we may rapidly enumerate what should be corrected to prevent the disease developing. These are: better school conditions than at present; more individuality in teaching children and in physical exercises for them; more hours of sleep for them; less filling of every hour of their days with some duty or entertainment, be it ever so simple; the early teaching of obedience and respect for the rights of others; the avoidance of societies, dances and teas for young children, and less of these for girls and boys before they are 18 or 19; the prevention, if possible, of pains from abnormal menstrual function in young girls; the correction of eye defects in all children and young people; and many other corrections of the incorrect things of young life which are recognized by every one and corrected by no one.

When the condition of neurasthenia is actually present, the treatment is, primarily, to remove all sources of nervous irritation, if possible, and to prevent and correct any physical disability, if possible. The food must be correct, the digestion must be good, and the bowels and condition of the intestines must be corrected, if defective. Next, the condition of the eyes must always be interrogated. Of this there is no question, and, even without headaches, a considerable portion of all neurasthenic, nervous patients, and even hysteric patients, have eye defects that must be corrected before improvement will occur. Tea, coffee and other nervous stimulants should be withheld; sleep is an absolute essential and must be induced, but in the simplest possible way. And here comes the advantage of the private hospital or sanatorium, where proper hydrotherapeutic measures, massage, graded exercises, perhaps electricity, and rest on the Weir Mitchell plan, with all freedom from home frets can be carried out.

While private hospitals are urged as the best place to treat these patients, it should not be necessary for the local physician to lose the care of his patient. Every city of any size should have such an institution. It is essential to-day that such hospitals should be established, and it is not just that every such patient (and they are numerous and on the increase) should be sent to a distance, at great expense, and the local physician have no opportunity to treat him properly. The institution should carry out, with such expert advice as the physician decides that the patient requires, his orders as to which physical treatments, what rest, what diet, and finally what drugs, if any are needed, should be given the patient.

With proper food, proper rest, freedom from care, good air and proper physical treatments, especially hydrotherapy, the patient will generally sleep and improve more or less rapidly. If forced feeding seems advisable, it may be tried for a time, though hyperalimentation now is not often necessary. Circulatory aid is often needed, and small doses of digitalis are sometimes valuable in causing increased muscular, mental and nervous strength.

If sleep is not caused by hydrotherapeutic measures, the mildest simple hypnotics must perhaps be used for a short time. Sometimes half a teaspoonful of the fluidextract of an active ergot, taken at bedtime, will cause sleep, especially if there is a tendency to sleeplessness as soon as the patient lies down, while he is drowsy and sleepy if sitting up, this condition being a vasomotor ataxia.

If intestinal indigestion is present and bowel toxemia is diagnosed, the withdrawal of meat, the substitution of vegetables and cereals, and washing out the colon with plain water or physiologic saline solution, daily, or every other day for a short time, will generally relieve the condition. Constipati ou course, not be allowed. Such a stimulant of the nervous system as strychnin is rarely indicated.

Of the disturbances of the internal secretions, only that of the thyroid gland will be mentioned; the signs and symptoms of hypersecretion or hyposecretion should be studied, and if either condition is present it should be treated properly.

No matter how much improvement is noted or how well the patient may seem, neither the physician nor the family should be surprised at another nervous breakdown if the patient returns to the same environment in which he suffered the first. Therefore, to make such a cure more or less permanent, it is essential that the conditions that caused the breakdown should not be allowed to recur.

DISTURBANCES OF THE HEART *

(Continued from page 831)

SIMPLE HYPERTROPHY

Like any other muscular tissue the heart hypertrophies when it has more work to do, provided this work is gradually increased and the heart is not strained by sudden exertion. To hypertrophy properly the heart must go into training. This training is necessary in valvular lesions after acute endocarditis, and is the reason that the return to work must be so carefully graduated. When the heart is hypertrophied sufficiently and compensation is perfect, a reserve power must be developed by such graded exercise as represented by the Nauheim, Oertel or Schott methods. Anything that increases the peripheral resistance causes the left ventricle to hypertrophy. Anything that increases the resistance in the lungs causes the right ventricle to hypertrophy. The right ventricle hypertrophy caused by mitral lesions has already been sufficiently discussed. The right ventricle also hypertrophies in emphysema, after repeated or prolonged asthma attacks, perhaps generally in neglected pleurisies with effusion, in certain kinds of tuberculosis, and whenever there is increased resistance in the lung tissue or in the chest cavity.

The term "simple hypertrophy" is generally restricted to hypertrophy of the left ventricle without any cardiac excuse—the hypertrophy caused by hypertension and hard physical labor. It is well recognized that it hypertrophies with hypertension and with chronic interstitial nephritis. It also becomes hypertrophied when the subject drinks largely of liquid—water or beer—and overloads his blood-vessels and increases the work the heart must do. This kind of hypertrophy develops slowly because the resistance in the circulation is gradual or intermittent. In athletes and in soldiers who are required to march long distances hypertrophy generally occurs. This hypertrophy, if slowly developed by gradual, careful training, is normal and compensatory. In effort too long sustained, especially in those untrained in that kind of effort, and even in the trained if the effort is too long continued, the left ventricle will become dilated and the usual symptoms of that condition occur. Such dilatation is always more or less serious. It may be completely recovered from, and it may not be. Therefore a proper understanding of the physics of the circulation by the medical trainer of young men to decide whether or not one should compete in a prolonged effort, as rowing in a race, for instance, is essential. It is wrong for a single athlete to have an incurable condition occur from competition.

Sometimes simple hypertrophy of the left ventricle occurs from various kinds of conditions that increase the peripheral circulation. It may occur from oversmoking, from the overuse of coffee and tea, from certain kinds of physical labor, or from high-tension mental work. It is a part of the story of hypertension. Many times such patients as well as occasionally trained athletes, and sometimes patients with arteriosclerosis or chronic interstitial nephritis, complain of unpleasant throbbing sensations of the heart. Added to these sensations are a feeling of fulness in the head, flushing of the face, and possibly dizziness—all symptoms not only of hypertension but of too great cardiac activity. Various drugs used to stimulate the heart may cause this condition; when digitalis is given and is not indicated or is given in overdosage these symptoms occur.

The treatment is simply to lower the diet, cause catharsis, give hot baths, stop the tobacco, tea and coffee, stop the drinking of large amounts of liquid at any one time, and administer bromids and perhaps nitroglycerin, when all the symptoms of simple hypertrophy will temporarily, at least, disappear.

If the heart is enlarged from hypertrophy, if it is the right ventricle that is the most hypertrophied, the apex is not only pushed to the left, but the beat may be rather diffuse, as the enlarged right ventricle will prevent the apex from acting close to the surface of the chest. If the left ventricle is the most hypertrophied, the apex is also to the left, but the impact is very decided and the aortic closure is accentuated.

SIMPLE DILATATION

The term "simple dilatation" may be applied to the dilatation of one or both ventricles when there is no valvular lesion and when the condition may not be called broken compensation. Broken compensation has been sufficiently discussed. Dilatation of the heart occurs when there is increased resistance to the outflow of the blood from a ventricle, or when the ventricle is overfilled with blood and the muscular wall is unable to compete with the increased work thrown on it. In other words, it may be weakened by myocarditis or fatty degeneration; or it may be a normal heart that has sustained a strain; or it may be a hypertrophied heart that has become weakened. Heart strain is of frequent occurrence. It occurs in young men from severe athletic effort; it occurs in older persons from some severe muscle strain, and may even occur from so simple an effort as rapid walking by one who is otherwise diseased and whose heart is unable to sustain even this extra work. All of the conditions which have been enumerated as causing simple hypertrophy may have dilatation as a sequence.

The symptoms of heart strain, if the condition is acute, are those of complete prostration, lowered blood-pressure, and a sluggishly, insufficiently acting heart. The heart is found enlarged, the apex-beat diffuse and there may be a systolic blow at the mitral or tricuspid valve. Sometimes, although the patient recognizes that he has hurt himself and strained his heart, he is not prostrated, and the full symptoms do not occur for several hours or perhaps several days, although the patient realizes that he is progressively growing weaker and more breathless.

The treatment of this acute or gradual dilatation is absolute rest, with small doses of digitalis gradually but slowly increased, and when the proper dosage is decided on, administered at that dosage but once a day. Cardiac stimulants should not be given, except when faintness or syncope has occurred, and if strychnin is used, it should be in small doses. The whole care, diet, massage and return to full work should be on the plan advised for a myocarditis following an acute disease. The heart may completely recover its usual powers, but subsequently it is more readily strained again by any thoughtless laborious effort. The patient must be warned as carefully as though he had a valvular lesion and had recovered from a broken compensation, and his life should be regulated accordingly, at least for some months. If he is young, and the heart completely and absolutely recovers, the force of the circulation may remain as strong as ever.

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* Editorial Note: This series of articles on "Disturbances of the Heart" will be issued in book form, in accordance with the desires of a large number of our readers from whom we have received letters. We will appreciate it if as many persons as possible order copies in advance, so that we may have some idea how many to print.

Sometimes the heart strain is not so severe, and after a few hours of rest and quiet the patient regains complete cardiac power and is apparently as well as ever; but for some time subsequently his heart more easily suffers strain.

ACUTE DILATATION OF THE HEART IN ACUTE DISEASE

It has for a long time been recognized that in all acute prolonged illness the heart fails, sooner or later, often without its having been attacked by the disease. The prolonged high temperature causes the heart to beat more rapidly, while the toxins produced by the fever process cause muscle degeneration of the heart or a myocarditis, and at the same time the nutrition of the heart becomes impaired either by improper feeding or by the imperfect metabolism of the food given; hence the heart muscle becomes weakened, and cardiac failure or cardiac relaxation or dilatation occurs.

The specific germ of the disease or the toxin elaborated by the specific germ of the disease may be especially depressant to the heart, as in diphtheria, or the germ may be particularly prone to locate in the heart, as in rheumatism and pneumonia. But all feverish processes, sooner or later, if sufficiently prolonged, cause serious cardiac weakness and more or less dilatation.

Just exactly what changes take place in the muscle fibers of the heart in some of these fevers has not been decided. Whether an albuminous or parenchymatous degeneration of the muscle fibers or a fatty degeneration occurs; whether there is a real myocarditis that always precedes the dilatation, or whether the weakening and loss of muscle fibers or a diminished power of the muscle fibers occurs without inflammation, dilatation of the heart is always a factor to be considered, and frequently occurs in acute disease.

While it is denied that acute dilatation can occur in a sound heart, at the latter end of a serious illness the heart is never sound, and acute dilatation can most readily occur, though fortunately it is generally preventable. When the dilatation occurs suddenly, as indicated by a fluttering heart, a low tension, rapid pulse, dyspnea and perhaps cyanosis with venous stasis in the capillaries, death is imminent, although such patients may be saved by proper aid. Even when the dilatation is slower, as evidenced by a gradually increasing rapidity of the heart and a gradually lowering blood-pressure, and with more evidences of exhaustion, death may occur from such heart failure in spite of all treatment.

Unless a patient dies from accident, as from a hemorrhage, from cerebral pressure or from some organic lesion in acute disease, the physician frequently feels that if he can hold the power and force of the circulation for several hours or days, the patient will recover from the disease, for in most acute diseases the patient has a good chance of recovery if his circulation will only hold out until the crisis has occurred or until the disease is ready to end by lysis. Therefore anything during the disease that tends to sustain, nourish, quiet and guard the heart means so much more chance of recovery, whatever else may or may not be done for the disease itself.

The best treatment of dilatation of the heart in acute disease is its prevention, and to prevent it means to recognize the conditions that can cause it. These are:

1. Prolonged high temperature. A short-lived temperature, even if high, is not serious. Prolonged temperature of even 103 F. or more is serious, and even that of 101 is serious if too long continued.

2. Exertion and excitement. Every possible means should be inaugurated to prevent muscular exertion and strain of the patient while in bed. Proper help in lifting and turning the patient should be employed, the bed-pan should be used, proper feeding methods should be adopted, and friends should be excluded so that the patient may not be excited by conversation.

3. Bad feeding. The diet should of course be sufficient for the patient and proper for the disease, but any diet that causes a large amount of gas in the stomach, or tympanites, is harmful to the patient's circulation, to say nothing of any other harm such as indigestion may do. All of the nutriments needed to keep the body in perfect condition should be given to a patient who is ill; in some manner he should receive the proper amounts of iron, salt, calcium, starch, protein, sugar and water.

4. Intestinal sluggishness. This not only means that tympanites should not be allowed, but necessary laxatives should be given. It would be wrong to prostrate a patient with frequent saline purgatives, but the bowels must move at least once every other day, generally better daily; and if the case is one of typhoid fever, they should be moved by some carefully selected laxative, and after the bowels have sufficiently moved, the diarrhea should be stopped by 1/10 grain of morphin, and the next day the bowels properly moved again.

5. Depressant drugs. In this age of cardiac failure heart depressants of all types, and especially the synthetic products, should be given only with careful judgment, and never frequently repeated or long continued.

6. Pain. This is one of the most serious depressants a heart has to combat; acute pain must not be allowed, and prolonged subacute pain must be stopped. Even peripheral troublesome irritations must be removed, as tending to wear out a heart that has all of the trouble that it can endure.

7. Insomnia. Nothing rests a heart or recuperates a heart more than sleep. Insomnia and acute disease make a combination that will wear a heart out quicker than any other combination. Sleep, then, must be produced in the best, easiest and safest manner possible.

8. A too speedy return to activity. The convalescence must be prolonged until the heart is able to sustain the work required of it.

The treatment of gradual dilatation in acute disease has been sufficiently discussed under the subject of acute myocarditis. The treatment of acute dilatation is practically the same as the treatment of shock plus whatever treatment must coincidently be given to a patient for the disease with which he is suffering. The treatment of shock will be discussed under a separate heading.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading-matter.

SATURDAY, MARCH 22, 1913

ANIMALS AS CONVERTERS OF PLANT NUTRIMENTS INTO HUMAN FOODSTUFFS

There are numerous circumstances under which questions of economy in the use of foodstuffs need to be taken into consideration. The problem of the cost of production of our nutrients is one that appears to be growing in importance and seriousness from decade to decade. In the extensive use of animal foods, so common in most civilized nations to-day, it is rarely borne in mind that the production of this type of nutrient involves a conversion of plant food into animal foodstuffs — a transformation inevitably necessitating a sacrifice of considerable energy. The animal which devours the plant products requires no small proportion of the stored energy for its own maintenance, that is, its normal life processes; accordingly the residue available for the production of meat and fat or the secretion of milk, which may become available to man as dietary articles, must represent a correspondingly smaller portion of the actual nutrients originally stored in the plant ingested. One is, therefore, justified in asking to what extent it may be possible or desirable for mankind to attempt to avoid this intermediate waste of energy by making direct use in larger proportion of the plant products which are ordinarily converted to our advantage by the herbivorous animal.

In attempting to answer this question we must bear in mind the diverse character of some of the plant products which are ordinarily consumed by man and the plant-eating animals, respectively. The latter utilize such natural products as straw, grass, leaves, etc., which ordinarily form no part of the human dietary. An inspection of these products reveals at once their relative richness in cellulose and related substances, which are not rendered available to the human individual in nutrition, but evidently are not without some nutrient value to the animals which consume them. Probably the most important factor in enabling the herbivorous animals to utilize such materials as have been referred to lies in the part played in them by certain types of alimentary bacteria which exert sufficient solvent action on the cellulose envelopes of various types of plant materials to liberate their more digestible contents for the subsequent action of the digestive juices of the animal, and, perhaps, also to convert the insoluble and unavailable cellulose into fermentation products which may still have a certain degree of nutrient value in the organism. At any rate it is clear, from such experimental evidence as is available at the present day, that cellulose is disintegrated in the alimentary tract of herbivorous animals to an extent which never occurs in the digestive tube of man. The only comparable factor which can enable the human organism to liberate the foodstuffs from their impervious coverings in the cereals, etc., is the process of grinding and milling which brings about an extensive comminution of these products. To a certain extent this is also accomplished by effective mastication, which, however, is ordinarily efficient to only a small degree in rendering the texture of resistant foodstuffs satisfactory for good utilization.

It is interesting to note that all the vegetable foodstuffs which are easily digested by man are advantageously used directly in our diet. The ultimate value of animal production lies, in part, in the fact that it enables mankind to transform into more readily utilizable food products nutrient materials for which the human organism is not well adapted. It follows, therefore, that in order to furnish nutriment to the maximum population from the natural resources of the land, the more digestible vegetable products should be applied directly for the nutrition of man, whereas the more resistant ones should be converted to his use through the intermediation of the ruminating animals. The respective rôles of the two types of organisms ought to be borne in mind whenever conditions arise which call for a maximum utilization of the products of the soil for the maintenance of a large population.

HEALTH EXPENDITURES OF THE FEDERAL GOVERNMENT

One of the most interesting contributions to the discussion of the public health activities of the federal government is Senate Document 1072, which contains a summary of the expenditures of the government during 1912 for public health and medical purposes. The information in this document was collected in accordance with a resolution introduced by Senator Works of California, asking for a report on "the total expenses of the government for 1912 for health departments, bureaus and all other health activities in its various branches," together with the number of officers and employees engaged in such work. Secretary MacVeagh submitted a summary of the expenditures followed by a recapitulation by departments, which is reproduced verbatim as showing the exact amount of the expenditures of the federal government for health purposes.

This report is the basis for the newspaper statement that the national government is spending nearly twenty million dollars a year in public health work. But what are the facts?

Following the tabulation quoted herewith is a report from the secretary of each department, giving the items of the expenditures. These details throw considerable light on the work actually being done. For instance, how does the state department spend $36,000 for health purposes? Investigation shows that $19,999.28 of this amount was to meet the expenses of the Ninth International Conference of the Red Cross, held in Washington last year, while $10,163.64 was for the recent International Congress on Hygiene and Demography. Of the remaining amount, $2,830.55 was the annual share of the United States for the maintenance of the International Sanitary Bureau, and $3,015.62 was the share of the United States in the support of the International Office of Públic Health, at Rome.

The $1,904,703.04 spent by the Treasury Department for health purposes was, of course, largely expended by the United States Públic Health Service, $747,638.32 being required for the salaries of the officers and employees and the traveling-expenses of the medical officers of the Public Health Service, while $14,892.80 went into the Hygienic Laboratory. The marine hospitals and care for the seamen of the merchant marine required $367,797.41. The federal Quarantine Service and the construction of quarantine stations cost $414,592.85, while the amount spent for preventing epidemic diseases in the United States, Porto Rico and Hawaii amounted to $326,057.38, plus $30,065.11 for the leprosy investigation station in Hawaii, making a total expenditure by the Treasury Department for health purposes of $1,533,256.46.

RECAPITULATION BY DEPARTMENTS

Departments and Bureaus	Expenses of Operation and Maintenance	Salaries and Other Compensation	Total Expenses	Number of Officers and Employees
State Dept.	$36,084.09	....	$36,084.09	.....
Treasury Dept...	668,289.55	$1,236,413.49	1,904,703.04	1,507
War Dept.	2,875,574.56	2,838,516.13	5,714,090.69	4,521
Panama Canal..	628,641.44	991,749.68	1,620,391.12	1,634
Soldiers' Home, Wash., D. C...	65,469.01	23,415.56	88,884.57	89
Nat. Homes for Disabled Vol. Soldiers	755,022.61	291,719.21	1,046,741.82	1,244
Navy Dept.	1,911,522.88	1,819,000.00	3,730,522.88	2,074
Interior Dept...	892,422.70	684,691.40	1,577,114.10	1,278
Dept. of Agricul.	347,225.60	3,551,977.28	3,899,202.88	3,159
Dept. of Commerce & Labor	44,739.83	95,060.03	139,799.86	98
Dept. of Justice.	32,598.18	9,953.00	42,551.18	28
Total	$8,257,590.45	$11,542,495.78	$19,800,086.23	15,632

The Isthmian Canal Commission spent, last year, $1,620,391.12 for sanitation. Of this amount $956,275.01 was spent in administration and in maintaining hospitals and asylums, $35,861.36 in buildings and repairs, while the remainder, amounting to $640,879.53, was spent in sanitation and the disposal of garbage, street-cleaning, etc., in Panama, Colon and the Canal Zone.

The medical expenditures of the War Department ($5,714,090.69) are, of course, larger than those of any other department and are confined entirely to the work of the medical corps and the construction of Army hospitals. Likewise, the Bureau of Medicine and Surgery of the Navy spent $3,730,522.88. As the object of warfare, however, for which the Army and Navy exists, is to destroy rather than to save life, the expenditures of these departments can hardly be regarded as for public health purposes. The total appropriations for the medical services of the Army and Navy are $9,444,613.57, over half the total charged against public health work.

The soldiers' homes, which spent $1,135,626.39, and the Pension Bureau medical service, which cost $240,287.44, can hardly be regarded as established or conducted in the interests of public health. The Bureau of Indian Affairs of the Department of the Interior shows an expenditure of $395,388.71 "for health purposes." Yet the commissioner says in his report that the only specific appropriation available for sanitary work among the wards of the nation is an appropriation of $60,000 "for relieving distress and prevention of disease among Indians," which amount is, he adds, "wholly inadequate to meet the requirements of the service."

The Department of Agriculture has the second largest amount charged against it. The Bureau of Chemistry, for the enforcement of the pure food law, is responsible for $782,263.02, while the Bureau of Animal Industry is charged with $3,090,403.29. This bureau is given the credit of having been established for the protection of the health of the public, whereas it was established originally and is now conducted as a commercial bureau to increase the value of farm products.

In the Department of Commerce and Labor, the Division of Vital Statistics of the Bureau of the Census required $105,195.47. The Children's Bureau spent $9,128.01. The Department of Justice paid out for the care of the health of United States prisoners $42,551.18.

The only items in this schedule which can properly be charged against the public health activities of the government, as far as the United States are concerned, are $1,533,256.46 of the appropriation for the Public Health Service which is actually spent for public health purposes, the $782,263.02 spent by the Bureau of Chemistry in enforcing the Food and Drugs Act, and the $105,195.47 required to operate the Division of Vital Statistics of the Bureau of the Census. To charge the cost of international conferences, Army and Navy medical services, construction of Army hospitals, expenses of the Pension Bureau and the Bureau of Animal Industry and the sanitation expense of the construction of the Panama Canal as public health expenses is, of course, absurd. The fact is that instead of the federal government expending $19,800,086.23 last year for public health purposes, it actually spent $2,420,614.95.

It is also worthy of note that the only three bureaus in which there were bona fide health expenditures were the Public Health Service, the Bureau of Chemistry and the Division of Vital Statistics, which are the identical bureaus which under the Owen bill would be transferred and made an independent health bureau.

Evidently the heads of departments at Washington under the late administration labored under the same error as some of our popular agitators, and confused medical treatment with health. The department proposed by Senator Owen is to be a health department and not a department for medical treatment. If this fact can be grasped, much confusion will be avoided both in the public press and in the seats of government.

MEDICINE AND THE LAW

"Every lawyer when young should be apprenticed to some good physician, and should return to him regularly through life," says Mr. G. M. Stratton[1] in contrasting the spirit of medicine with the spirit of law. In accepting this graceful appreciation our profession might reply as simply as did Mark Twain who, in responding to the toasts at a dinner given in his honor, said that never before had he heard compliments so beautifully expressed or so well deserved.

Stratton, speaking of the spirit pervading each of these professions, finds that lawyers as a body, in their professional work, are "of the backward look," while physicians keep pace with the advance of the natural sciences. The body of the law stands immovable, for it "represents the stability, the habit of our social life," as against the creative energy of reform. "Of two Rip Van Winkles awakening to-day, the physician would find his old methods as rust-eaten and useless as his instruments; the lawyer, after a few hours with new statutes, would feel at home in any of our courts." Too often the aim seems to be to play out a game with punctilious regard for all the rules, however minute, fantastic or technical, rather than to decide a weighty question with due sober respect for the grave human issues involved. Thus "an action for murder comes to nought because the complaint fails to state that John Smith slain was a human being." Then too, the lawyer passes through the school of advocacy. In practice he is ready to fight on either side. This robs not only the attorney but also the judge of whatever rounded view he might otherwise have of his larger social duty, his responsibility to the public. The object of medicine is not in conflict with other social needs. The physician does not heal one man at the cost of the health of another. The lawyer too often defends one man's rights at the expense of another's. "The individual lawyer is not free to put into operation some entirely new principle the value of which he may perceive; he is not free to experiment effectively," as is the physician. It is to offset the deadening influences of the lawyer's work that Stratton advises him to seek inspiration from medicine. By intercourse with the physician he may find the spirit which is lacking in his own profession.

Stratton's evident sympathy with the medical side of his contrast leads one to fear that he looks solely on the limitations of the one great profession and on the opportunities of the other. On that point, let the men of law speak for themselves. It would, of course, be most foolish to regard such a tribute to the spirit of medicine as called forth by personal merit, even that of the masters of the art. Yet the least among us, provided he be sincerely imbued with the spirit of his chosen work and earnestly devoted to its success, is entitled to feel pride as well as satisfaction in the fact that his task is to read the inexhaustible book of living Nature instead of the annals of the past.

THE ENCOURAGEMENT OF MEDICAL RESEARCH

Prof. R. G. Hoskins of the Starling Ohio Medical College in Cincinnati has proposed a plan for the encouragement of medical research[1] which is intended to act as an incentive to competent workers who are not reached by the opportunities of the great research foundations or other scientific laboratories. The scheme aims to reward actual accomplishment without unduly favoring any one. It is suggested that the result could be achieved by the simple expedient of endowing the periodicals devoted to the publication of research so that contributed articles could be paid for according to their merit. Dr. Hoskins believes that such an arrangement would obviate what he considers to be, in many institutions, the most discouraging feature of research, the feeling that unusual effort, from a selfish point of view, is not merely futile but even detrimental, in that certain social and personal sacrifices are made without compensatory gain. We are told that the plan in operation would be simplicity itself. Rewards would go automatically to those who earned them. The difficulty of securing editorial boards fair-minded enough to decide the problems which would inevitably arise in this plan is admitted, although not regarded as insurmountable.

It is doubtless true that there are capable investigators who are not reached by the present organization of research undertakings in this country. We look with a certain misgiving on the tendency to divorce research from the universities and to segregate it in independent centers. There are many aspects to these broad questions and they cannot be settled by offhand judgments and haphazard opinions. But aside from this and admitting the difficulties under which even men of ability when isolated may struggle in an attempt to accomplish something worthy in the medical sciences, it is questionable whether the plan proposed could bring about the ends it aims to accomplish. The honorarium paid by some of the German publications to their contributors has tended to encourage quantity rather than quality of contribution in many instances, although it must be admitted that the cases are not strictly comparable with the standard proposed by Dr. Hoskins. There is an underlying error, we believe, in the attempt to measure the value of research by the publications submitted. Diligent, protracted investigation — the dictionary's definition of research — makes no pretense to furnish a product of specific value. Laborious study of the sort which brings what are commonly spoken of as "negative" results may have the utmost importance. Usually this lies in enriching the experience of the individual, in better preparing him for his further ventures, in paving the way for others so that they may avoid the errors of methods and the inadequacies of tested schemes. We are prone to overlook the value of such apparently unfruitful endeavors, though in truth they are often quite as important as a few striking positive findings. Negative findings do not always lend themselves to publication.

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[1] Stratton, G. M.: Lawyer and Physician: a Contrast, The *Atlantic Monthly*, January, *1913*, p. 46.

[1] Hoskins, R. G.: A Plan for the Encouragement of Medical Research, *Science*, *Feb. 21, 1913*, *p. 303*.

Present-day methods of administration tend to recognize and reward the man. The dissatisfaction which is voiced in such plans as we have been discussing will be overcome in part when the status of the man of science in this country is decidedly changed. Pecuniary awards are admittedly difficult of adjustment in science; but it is reasonable to expect for its devotees a greater social respect and public recognition than they are wont to receive. The respect and admiration of one's fellow man are potent factors in making the pathway of life more attractive. The popular estimate of the scientific worker is veiled in the thinnest humor in "The Food of the Gods," the fantastic story by H. G. Wells. "Quite ordinary persons, you perceive, outside their science. Or if anything on the unpractical side of ordinary. And that you will find is the case with 'scientists' as a class all the world over. What there is great of them is an annoyance to their fellow scientists and a mystery to the general public, and what is not is evident."

Science has contributed and is bound to contribute to the practical and utilitarian in the life of man, yet it is not and cannot be pursued as a mercantile affair. Modern physics is not cultivated as the servant of a steel corporation or an electricity monopoly. And similarly scientific medicine will continue to progress despite its inadequate rewards and its seeming inequalities of opportunity, because man's mind craves and finds satisfaction in the growth of human knowledge.

ANOTHER FUNCTIONAL TEST DISCREDITED

Another test for functional disorder in the organism has apparently come to grief. It has been known for some time that malignant growths contain an enzyme of the erepsin type capable of digesting protein beyond the proteose stage. This proteolytic power has been described as present in the gastric contents of cancer patients, where it was supposed to have been derived from cancer tissue and secreted into the stomach. An excellent method of detecting this digestive property was devised by Neubauer and Fischer in 1909 when they introduced the dipeptid glycyltryptophan as a test object. This compound is not split by pepsin; but other proteolytic enzymes can initiate hydrolysis and liberate the tryptophan, which is easily identified by means of a color reaction with bromin. Subsequently other tryptophan-yielding protein mixtures, such as the commercial "pepton" of Witte (which likewise does not yield amino-acids by treatment with pepsin alone) have been substituted in the functional test for the diagnosis of cancer. A large literature has already grown about this theme. For the most part it consists of statistical reports regarding the negative or positive outcome of the tryptophan test in normal cases or those suspected of carcinoma.[1] There has been no lack of critique in the matter, however. It is generally agreed that in the large majority of the cases of gastric carcinoma the stomach contents do show the power to hydrolyze the polypeptids as pepsin does not. But the possibility of a reflux of duodenal contents through the pylorus, carrying along the ereptic and tryptic enzymes from the intestine and pancreas, is an ever-threatening possibility, especially when, as in carcinomatous stomachs, the low gastric acidity favors such regurgitation.

A quite different source of error was brought out by Warfield in 1911. He discovered that saliva is capable of splitting glycyltryptophan so that it will give a reaction for tryptophan with bromin. If this is true — and it has been confirmed — there is no reason why the positive reactions obtained with the gastric contents in cancer, in which the acidity is notably low, should not be attributed to the admixture and "survival" of the peptid-splitting saliva swallowed. Thus the validity of the tryptophan test has been menaced from both ends of the stomach, by the entrance of intestinal contents at the pylorus and of saliva at the cardia.

Now, however, the further question has been raised whether in reality the reactions observed are due to a new enzyme in the saliva. Independent experimental investigations in the Mayo Clinic[2] and in the Sprague Institute for Medical Research[3] point to bacteria as the real source of the peptolytic reactions that have been described for saliva and consequently also for stomach contents containing the latter. Saliva suitably filtered and kept aseptic fails to exhibit this peptid-splitting behavior. Free tryptophan is occasionally met in saliva from dirty or infected oral cavities. The use of strong mouth-washes, such as the organic peroxids, results in a marked diminution of the peptid-splitting power ordinarily observed; while cultures of bacteria grown from saliva often readily produce the typical reaction of the test. These facts all point to microorganisms as the source of the cleavage power, which is accordingly due to the unfilterable agents. According to Jacque and Woodyatt, normal gastric juice, free from blood, pancreatic secretion and bacteria, has no peptolytic power. The same holds true for cases of benign subacidity. These authors state that in about 88 per cent. of developed cases, carcinomatous stomach contents show a peptolytic power decidedly greater than the maximum seen in benign conditions in general; so that the detection of this power may after all be of some value in the diagnosis of cancer. In any event it is essential to eliminate bacteria by the passage of the gastric specimen through an effective filter, with subsequent aseptic precautions. The newly described facts must nevertheless serve to diminish the confidence which has hitherto been bestowed on the tryptophan test.

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[1] The literature bearing on the tests, etc., will be found compiled in the Archives of Internal Medicine, December, 1912, pp. 575, 576; also April, 1912, pp. 445, ff.

[2] Smithies, Frank: The Glycyltrypto[illegible] (peptid) S[illegible] Agent in Human Saliva, Ar[illegible] Med., [illegible] 912, I[illegible]

[3] Jacque, J. L., and [illegible] . T[illegible] le Gastric Juice and Saliv[illegible] al of Cancer, Arch. Int. M[illegible] 1[illegible]

EXAMINATION FOR FEEBLE-MINDEDNESS AMONG IMMIGRANTS

The problem of the feeble-minded is one that presses insistently for solution. Among the important phases of this problem not the least is that of the detection of feeble-minded among immigrants. New York, g the portal of entrance of the greatest number of nigrants, is most immediately affected by this prob- . The New York State Board of Charities, in a ent report to the governor, calls attention to the adequate facilities for caring for the thirty thousand efectives in the state, among whom are many immi- rants or the children of immigrants. There are facilities for taking care of only six thousand. The commissioner of immigration and many of the medical men and inspectors in the immigration service at the port of New York have laid stress on the inadequate force and appropriation for detecting and excluding the feeble-minded among immigrants reaching that port. It has also been asserted, as pointed out in a recent editorial,[1] that the training of many inspectors is not of such specialized character as to enable them to pick out, with the greatest possible degree of accuracy, the feeble-minded among immigrants.

J. G. Wilson of the United States Public Health Service,[2] located at Ellis Island, also calls attention to the lack of trained men and interpreters and a place for them to work, and the failure of Congress to provide adequate funds for these purposes. Wilson points out, moreover, the insufficiency of any particular method of determining feeble-mindedness among immigrants. He says that, even though the essential phenomena of feeble-mindedness be the same among all races, it does not follow that these can best be elicited in all cases by identical methods. The differentiation of the high-grade feeble-minded individual or moron from the person of average intellectual capacity is made more difficult by the fact that we have no entirely satisfactory understanding of what really constitutes a moron. To say that a moron is a person whose intellectual development is permanently arrested somewhere between the ages of 8 and 12 years seems definite, but when applied to immigrants is open to the objection that the standard of intelligence and of knowledge varies with the different races. To this difficulty are added those arising from the differences in language and the racial point of view as to life's problems, which make it hard to differentiate between the moron and the ignoramus among the immigrants.

Although Wilson believes that the Binet-Simon test is sufficiently accurate when applied to the diagnosis of feeble-mindedness in those who have been brought up in an environment similar to that of the persons among whom Binet's original experiments were conducted, and that as modified by Goddard it may be applied to Americans, he finds that it is not an infallible test for feeble-mindedness among immigrants. He believes that we should be extremely cautious not to confound dense ignorance with inherent mental incapacity. He cites as an instance a 20-year-old immigrant farm laborer with no schooling, who could not read or write and who failed in the 7-, 8- and 9-year-old Binet-Simon tests, but who, when asked a series of questions which came more nearly within the range of his experience, answered them all perfectly although many involved both intellectual and moral judgments. Wilson found that the man was normal but that his powers of observation and his constructive imagination had lacked opportunity for development. Wilson found also that Healey's rack test and Fernald's test, which are in the form of puzzles, designed to bring out the perception of the relationships of forms and of the individual's ability to profit by the experience of repeated trials, could not be relied on to differentiate between the normal and abnormal in all instances; many immigrants otherwise found to be normal failed in these tests.

Wilson therefore believes that every artificial aid to determine mental ability must be used with great caution and be considered only as an adjunct to a general examination which considers the reaction of the individual to his environment under all circumstances. Any tests applied should have an air of familiarity about them. The diagnosis of feeble-mindedness must be established by careful weighing of all the evidence which every reputable method of examination can furnish, such as the Binet-Simon tests, the Di Sanctis tests, the apparatus of Healy, Fernald, etc.; but the examiner should always bear in mind the fact that what he really desires to determine is whether or not the alien is lacking in one or more mental traits which will make it impossible for him to assume his normal relations to society. All of this emphasizes the importance of time,

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1. The Problem of the Feeble-Minded Among Immigrants, editorial, The Journal, Jan. 18, 1913, p. 209.
2. Wilson, J. G.: The Diagnosis of Feeble-Mindedness Among Immigrants, Boston Med. and Surg. Jour., Feb. 13, 1913, p. 226.

of adequate facilities and of a sufficient force of specially trained and experienced inspectors, if such effective showing is to be made in the detection of the feebleminded who seek to enter our country as the great importance of the question demands.

Current Comment

CLEAN ADVERTISING—A HOPEFUL SIGN

The fight THE JOURNAL and some lay publications have made against fraudulent medical advertising seems to be making fair progress toward success. Each year additional newspapers and magazines have joined this campaign for decency and truthfulness. Now there has arisen a new power from which much may be expected. This force, to which we referred recently,[1] is an organization known as the Associated Advertising Clubs of America. It has over 10,000 individual members, and includes many advertisers who operate on a national scale. The organization has what it terms a National Vigilance Committee which was created "to wage war on dishonest advertising." This committee, through its chairman, Mr. H. D. Robbins of New York, has for some time past been in correspondence with THE JOURNAL office for the purpose of obtaining reliable information regarding medical frauds. Many individual advertising clubs in different parts of the country, component parts of the Associated Advertising Clubs of America, have their own local "vigilance committees" whose duties are similar to those of the national committee but applied to local rather than national problems. Readers of THE JOURNAL will, we believe, read with gratification the following resolutions, adopted by the National Vigilance Committee of the Associated Advertising Clubs of America:

> WHEREAS, The American Medical Association has rendered a great service not only to the medical and pharmaceutical professions, but particularly to the public at large in the investigation of fraudulent quacks and nostrums and in its publication of pamphlets exposing the unworthy; therefore be it
>
> *Resolved*, That the National Vigilance Committee of the Associated Advertising Clubs of America in convention assembled at Cleveland, November 23, hereby expresses its hearty appreciation and thanks to the American Medical Association and pledges to that Association the utmost measure of active assistance which lies within its power to render. In turn it asks, knowing that it will receive, the active cooperation of the American Medical Association in its particular task of eliminating from all decent publications or other means of reaching the public eye, all announcements of unworthy, dishonest or fraudulent medical advertising.

The power that such an organization as the Associated Advertising Clubs of America can wield is far greater than that possessed by any publication. Those of us who have been fighting for decency and truth in advertising have been able to bring to bear only the powers of moral suasion. We could say to the newspapers that are carrying fraudulent medical advertisements: "These things are frauds. They are frauds for reasons that we are able to give you. May we not suggest that you reject such advertisements?" But the national advertisers, naturally have greater influence. They can say to the newspapers: "We purchase thousands of dollars' worth of space in your paper every year. Our products are clean; are sold under no misrepresentation and are, in fact, in every sense legitimate merchandise. We protest against having our advertisements appear in company with advertisements of products that are vicious or fraudulent, or both. We believe that such a juxtaposition is to the detriment of the honest product. The public has become critical. In suspecting, or realizing, that certain advertisements in a given newspaper are fraudulent, doubts are likely to be raised as to the genuineness of all other advertisements in the same paper. We, therefore, have decided to place our advertising with such newspapers only as exclude all fraudulent matter." If this attitude is taken by the purchasers of large advertising space it will result in the segregation of objectionable advertisements. There will doubtless be some sheets that are willing to accept the offscourings, but in the nature of the case, the influence of such mediums will be self-limited.

PROFESSIONAL FEES AND WEALTHY PATIENTS

Fees for professional services are generally determined by the value of the services and the wealth of the patient. The justice of the first condition requires no argument. Various reasons have been given in defense of the second. Some are valid. Others are plainly subterfuges. It has remained for one of the best-known members of the New York bar to advance an explanation founded on both law and equity. Speaking at a medical dinner recently, Hon. W. Bourke Cochran said that the sea law of salvage should apply on land as well as on sea. The New York *Times* gives this extract from his remarks:

> Now you all know that when a mariner comes on a wrecked vessel and saves it he is entitled to a fee for salvage. And that fee is fixed not according to the trouble it was to him to make the salvage, but according to the value of the goods salvaged. That is the law to which we must look to judge the surgeon who performs a major operation on a rich man.

Whether Mr. Cochran's theory is good law or not is for his legal confrères to determine. It is, however, a new and ingenious justification for a practice which has long existed.

DANGEROUS GLUTEN FLOURS

The fraud and deception to which an unfortunate portion of the public is subjected in the purchase of so-called foods for diabetics has been commented on before. In the Propaganda for Reform Department this week we discuss a few of the most widely advertised of these products. In some cases, the manufacturers of these preparations are plainly to blame. They know that the stuff they sell is dangerous for the diabetic, and when national or state laws have forced them to modify their claims, they have done so in such a way as to continue to violate the spirit of the law while grudgingly obeying the letter. Other manufacturers, we believe, have been misled by those who should know better—physicians. As a large share of the responsibility for the proprietary evil rests, in its final analysis, on the medical profession, so, unfortunately, does much of the blame for the frauds perpetrated in the name of gluten and diabetic foods. We believe that it is no exaggeration to say that four physicians out of five conceive "gluten flour" to be a flour from which practically all the carbohydrates (starch, sugar, dextrin, etc.) have been removed. That such is not the case is due in part to the wretched standard promulgated by the federal government, but physicians can do much to offset the harm done by the government's low standard. Very few people purchase gluten flours or foods except on the recommendation of a physician. It thus becomes the duty of every medical man to make plain to his patient that in the present state of the law the term "gluten flour" means little or nothing to the diabetic and that the essential information to be sought before purchasing such flours is the carbohydrate percentage. The law should demand that every package of gluten flour should have printed on its label its carbohydrate percentage—a requirement no honest manufacturer could object to. If this were done it would be a great step toward the protection of sufferers from diabetes. No flour containing over 10 per cent. of carbohydrates is a safe flour in a well-marked case of this disease. There is possibly a place in commerce for flours containing 40 or 50 per cent. of carbohydrates, to be used by those whose starch-tolerance is below par or by those who are suffering from a transient glycosuria, but no flours containing such high proportions of carbohydrates should be sold as safe products for the use of diabetics.

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[1] A New Force Against Fraudulent Advertising, Current Comment, THE JOURNAL A. M. A., Jan. 25, 1913, p. 291.

THE PRACTICAL VALUE OF BIRTH-REGISTRATION

The practical value of a birth-certificate has often been commented on. A recent criminal trial in North Carolina shows the importance of such records. In the case of the State versus Goodlake, the question of the guilt or innocence of Goodlake depended on whether a girl was or was not 14 years old. It was admitted that she was over 13, but it was claimed that she was not yet 14. How was this point proved? In a state which had had modern birth-registration for fourteen years, this would have been easy. The court would have called for a certified copy of the girl's birth-record. But in North Carolina there has been no birth registration. How could the court ascertain the facts? An old family Bible was found with a record of the child's birth; the monthly report cards of her school-teacher were introduced, and the teacher identified her records, and an old negro nurse testified as to the age of the child. Family Bible records are known to be loosely kept, entries often being made months or even years after the events. The school-teacher's records were only corroborative, while the "black mammy's" recollections after thirteen years were practically worthless. But the jury decided that the girl was 14 years old and sent Goodlake to the penitentiary for eight years. We know nothing of the merits of the case, of the guilt or innocence of the accused, or of the justice or injustice of the verdict. But for a modern, civilized state to have to resort in court to such methods to prove the age of one of its wards is supremely absurd. Evidently the people of North Carolina have come to the same conclusion, as the state legislature has just passed the model bill for the registration of births and deaths. After this law is once fairly in working order, such occurrences as those which marked the Goodlake trial will be impossible. Illinois, Iowa and Tennessee have the same measure before their legislatures, and it is hoped it will become a law in each of these states.

VITAL STATISTICS AND HEALTH CONDITIONS AS AN ADVERTISING ASSET

It has been the custom in the past for resorts with a favorable climate to advertise their "pure air" as an inducement to tourists, invalids and settlers — making use, in so doing, of "hot air," or just ordinary "blowing." Now that the value of climatic conditions with reference to health can be more correctly estimated, mere statements as to natural advantages in the way of springs, air, sunshine, etc., do not carry such weight. Something more definite must be presented. Health conditions in city or resort, to be regarded as an asset for drawing visitors or permanent residents, must be based on actual figures, and many places now vie with each other in that respect. The Manitou Springs Hot Iron Club, a commercial organization, in order to attract visitors and residents, circulates a letter calling attention to the vital statistics and morbidity record of that city, as compiled by the city physician. This is a rather novel idea. As the health of its inhabitants is the best business asset which any place can have, it is good business and good advertising for business men's associations to call attention to the actual figures with reference to their city in this manner.

STATE SUPPORT OF MEDICAL EDUCATION

Slowly but surely state legislatures are coming to see the necessity of providing more generously for the support of medical education. In the twenty-seven states that have state medical schools all but two, or possibly three, have provided in some way for the support of those schools. In several states this support is by a specified per capita tax. In others, means are provided for the state university, the university being left free to expend that money as it likes for the medical as well as for the other departments of the university. Still other states make direct appropriations for the medical school. Two states which have recently made appropriations for medical education are Arkansas and South Carolina. The legislature of the former has just appropriated $36,000 for the medical department of the state university.[1] In the latter the legislature has recently converted the Medical College of South Carolina, Charleston, into a state institution and has appropriated $10,000 toward its maintenance. Other states are making more liberal appropriations than heretofore, as shown by reports from Indiana,[2] where the annual appropriation for the medical school has been increased to $75,000, and in Oregon, where a larger appropriation ($45,000) for the medical school has just been reported.[3] Two state medical schools which at present are not receiving support from their state legislatures are Georgia and Illinois. The medical department of the University of Georgia has recently undergone a remarkable development through funds provided by the citizens and city of Augusta. In order that it may continue that splendid development, however, it should receive generous support from the state. In Illinois, if the state university medical school is to be satisfactorily developed, it also must receive ample support from the state. In several other states medical education has reached a critical period, which makes it urgent that the state appropriations be generously increased. In Nebraska, for example, although the state has already provided for college buildings for the state university medical school on the new campus in Omaha, it is quite urgent that the state should immediately provide sufficient funds for the greatly needed university hospital. In West Virginia, if the state university is to conduct a medical department, appropriations for that purpose should be sufficiently large to permit that department to be developed in a worthy manner. In Kansas, although large sums have been appropriated in the past, additional sums are needed for the further development of the school. The time is past when a medical school can be properly conducted on the income derived from students' fees, even though they be exorbitant. The medical school which is to furnish a training in modern medicine must of necessity have a corps of full-time, thoroughly qualified teachers to whom salaries must be paid, and there must be four or more large extensively equipped laboratories which not only require an original outlay of thousands of dollars but also require large sums for their maintenance. The same is true also regarding the development and maintenance of the medical library and the medical museum, which are essential adjuncts to the modern medical school. Altogether this requires an income far in advance of that required only two or three decades ago when medical teaching was largely by didactic methods. It is because of this largely increased expense that private, unendowed medical schools are rapidly disappearing, leaving the responsibility for the training of physicians to state universities and to well-endowed institutions. In order that the state universities may have medical schools worthy of being called state institutions, it is essential that they receive generous support from the respective legislatures. The states which grant such support will thereby insure for those commonwealths better-trained physicians who can better cope with the complex problems of sanitation and public health and at the same time furnish more skilled care for those who have need of a physician's services.

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[1] News Department, this issue.

[2] News Department, Feb. 22, 1913, p. 606.

UNAPPRECIATED EFFORTS OF COMPETENT OFFICIALS

The rapid development of medical education brought about during the past several years has shown in marked contrast the great need for better laws regulating the licensing of physicians and of better methods in the enforcement of such laws as are already enacted. Those who are striving for such improvements, however, have a decidedly up-hill road to travel. This is particularly true regarding the work of efficient executive officers of state licensing boards. Too often this position is so interwoven with politics as to make effective work exceedingly difficult. On the other hand, there is much evidence of very efficient work, and in several instances this work has been done under exceedingly difficult and trying circumstances. Often the board is not getting ample funds with which to do effective work. Again, the efficient officer soon finds that the first fruits of his efforts are kicks, curses and abuse, not only from those whose questionable practices are curtailed by the enforcement of the law, but often also from some to whom he had looked for sympathy and moral support. Some of these officials have, with little or no salary, neglected their private practices and fought the people's fight against quacks, incompetents and frauds, sometimes carrying on the work almost single-handed. How discouraging it must be, therefore, for one of these officials to find that apparently his work has not been appreciated by the public or by many of the medical profession, and to learn also that some of the latter have even sided with his enemies! A year or so ago we referred in these columns to the persistent fight made for fair standards of licensure in Colorado[1] and again to the work in North Carolina.[2] During the last year or two an equally effective fight has been carried on in Kansas by Dr. H. A. Dykes, the able secretary of the licensing board, who successfully prosecuted several notorious quacks, even with the seriously limited funds at his disposal. It is a question whether he had the support which he should have had either from the medical profession or from the people of that state. Anyone who was not a persistent fighter like Dr. Dykes would long ago have said "What's the use?" It is very desirable that the medical profession, at least, should give efficient state officials its hearty and effective support, and that all forces should unite in the campaign for better safeguards against unprincipled and swindling quacks, as well as against incompetent and untrained practitioners of medicine.

Medical News

ARKANSAS

Little Rock

Medical School Gets Appropriation.—An official notice says that the Arkansas General Assembly has just appropriated $30,000 for the Medical Department of the University of Arkansas for the biennial period ending March 31, 1915.

ILLINOIS

Medical Block for Rockford.—The erection of a six-story building on North Main Street near State, to cost $150,000 and to be occupied by physicians and dentists, is being considered by the professional men of Rockford.

Dispensary for Elgin.—At the meeting of the advisory board of the United Charities of Elgin, March 4, Dr. A. L. Mann, city physician, was asked to bring to the attention of the city commission, the matter of establishing a free dispensary for the poor of Elgin.

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[3] News Department, March 8, 1913, p. 757

[1] Dec. 16, 1911, p. 2018.

[2] Jan. 13, 1912, p. 120.

Sanatorium Notes.—A tuberculosis sanatorium is to be established two miles west of Springfield where a ten acre tract of land has been purchased as the site. Dr. George T. Palmer and Hon. Thomas E. Lyon consummated the deal.——The National Sanatorium and Springs, Freeport, which succeeded to the property of the White Sanatorium Company a year ago, is reported to have made an assignment for the benefit of creditors, March 10.

Personal.—Dr. E. G. Wilson, Kankakee, has been appointed local surgeon for the Chicago, Indiana and Southern Railway.——Dr. Louis Ostrom has been elected president, Dr. G. L. Eyster, vice-president and Dr. J. C. Souders, secretary-treasurer of St. Anthony's Hospital, Rock Island.——Dr. J. De Silva, Rock Island, has resigned as a member of the State Penitentiary Board.——Dr. F. M. Ingalls, for eighteen years a practitioner of Highland Park, has disposed of his practice and expects to leave early in May for Sacramento Valley, Cal.——Dr. John Deal, Jr., Riverton, has returned from abroad and will open an office in Springfield.——Dr. Theodore S. Proxmire, Lake Forest, has been placed in charge of medical work at Fort Sheridan during the absence of the regular staff.

Chicago

Personal.—Dr. and Mrs. Emanuel J. Senn have returned after several weeks in New Orleans.——Dr. Haim I. Davis, recently appointed county physician, assumed charge, March 13.——Dr. Joseph Shanks has been elected chairman of a committee for the establishment of a free dispensary on the northwest side of the city.

Bequest to Mercy Hospital.—By the will of the late Ferris H. Thompson, New York City, who died in Paris, February 18, Mercy Hospital and Orphan Asylum, Chicago, receives a bequest of $100,000 and a contingent bequest of $200,000 on the death of the widow of the decedent. The bequest is to be used for the erection of a five-story, fire-proof building as a home for nurses.

Tuberculosis Study Circle.—The third meeting of the Tuberculosis Study Circle of the Chicago Tuberculosis Institute was held March 21 at the City Club. Dr. W. A. Gekler, superintendent of the Indiana State Tuberculosis Hospital, Rockville, spoke on "Treatment of Pulmonary Tuberculosis with Artificial Pneumothorax," and the discussion was opened by Dr. Ethan A. Gray.

IOWA

New Society Organized.—Eleven practitioners of Perry met in the office of Dr. S. P. Free, recently, and organized the Perry Medical Society.

Must Report Typhoid and Tuberculosis.—On March 1, the compulsory registration of cases of typhoid and tuberculosis began in Des Moines. Printed blanks for reports have been furnished physicians.

Personal.—Dr. E. H. Hazen, Des Moines, who was operated on recently at Mercy Hospital is making steady progress toward recovery.——Dr. H. A. Minassian, Des Moines, who was operated on recently at Mercy Hospital for appendicitis, is ill with pneumonia, but is reported to be doing well.——Dr. A. J. Hunter, Oskaloosa, has suspended practice and gone to Havre, Mont.—Dr. F. C. Mehler, New London, in honor of his semicentennial of practice, was given a banquet in Burlington, February 14. Dr. J. Fred Clark presided.

KANSAS

New Medical Society Organized.—The faculty and students of the University of Kansas Medical College, Rosedale, organized a medical society, February 21, with an initial membership of sixty and elected Dr. Arthur E. Hertzler, Kansas City, president, and Dr. C. A. Doty, secretary.

Appropriations for State Institutions.—The Kansas legislature has appropriated $49.500 for a tuberculosis sanatorium in the northwestern part of the state, and $55,000 for the new buildings for the Larned State Hospital in addition to the unexpended balance made by the last legislature.

Personal.—Dr. James A. Barker, National Home, has been appointed chief surgeon of the Mountain Branch Soldiers' Home, Johnson City, Tenn., vice Dr. J. C. Butler, resigned.——Dr. S. A. Bass, Wichita, fractured his right arm while cranking his automobile, March 7.——Dr. J. H. Guinn, Arkansas City, announces his intention of discontinuing practice and of removing to Long Beach, Cal.——Dr. W. L. Jacobus, Ottawa, was operated on for appendicitis in the University Hospital, Kansas City, recently.——Dr. B. F. Slusher, Hutchinson, fell from his buggy recently, fracturing his forearm.

KENTUCKY

New Officers.—Hart County Medical Society at Munfordville, March 4: president, Dr. J. W. Craddock, Bonnieville; secretary, Dr. Dodson, Rowletts.

Personal.—Dr. Henry C. Kehoe, Flemingsburg, has been elected secretary of the State Institution for the Feeble-Minded, vice Dr. G. W. Armes, Frankfort, resigned.——Dr. J. D. Clardy, Hopkinsville, is reported to be critically ill.

New Hospital.—Physicians of Pikeville have organized a stock company and let a contract for the building of a twenty-five room brick hospital. Drs. W. J. Walters, M. Pinson, W. A. Campbell, Z. A. Thompson and J. W. Vicars are among the promoters.

MARYLAND

Senator Wires Hospital.—Senator William P. Jackson has authorized Dr. Bryce W. Goldsborough, chief of the staff of the Cambridge Hospital, to have the hospital wired for electric lights at his expense. He will also pay for improvements in the *x*-ray department of the hospital.

Personal.—Dr. and Mrs. Cecil Dabney, Sherwood, have started for China where Dr. Dabney is a medical missionary of the Protestant Episcopal Church.——Dr. G. Hampden Richards has been elected mayor of Port Deposit.——Dr. William H. Welch, Baltimore, is still ill with gout.

Baltimore

Hospital Asks Increased Endowment.—Johns Hopkins Hospital is asking increased endowment to meet increased demands and outlay. Additions to four public wards and a new building for eye, ear, throat and skin diseases are contemplated as well as enlarged dispensaries.

MICHIGAN

New Officers.—Dr. Sara T. Chase has been elected secretary-treasurer of the Traverse City Antituberculosis Society.——Dr. Herman Ostrander has been elected president; Dr. J. B. Jackson, a vice-president, and Dr. S. R. Light, treasurer, of the Kalamazoo Antituberculosis Association.——The Michigan Health Officers' Association at its recent meeting in Ann Arbor, elected Dr. Guy L. Kiefer, Detroit, president; Drs. T. J. Langois, Wyandotte; T. M. Koon, Grand Rapids; A. F. Fischer, Hancock, and Edward Goodwin, Bay City, vice-presidents, and Dr. R. L. Dixon, Lansing, secretary-treasurer.

Hospital Notes.—At a joint meeting of members of the Poor Commission of Detroit with representatives of the Detroit hospitals, March 1, it was decided to ask for $600,000 for the construction and equipment of units of the various existing hospitals for the care of the sick poor.——A new hospital is to be built in Jackson through the efforts of the Jackson County Medical Society. The building will be of brick construction, fire-proof, three stories in height and will cost $100,000.——At the Eloise Tuberculosis Hospital there are fifty men and four women being treated, the male section being overcrowded while there is much waste of space on the female side. It is proposed to take as many male patients from the Detroit Tuberculosis Hospital as that institution will take females from the Eloise Tuberculosis Hospital, thereby limiting the accommodation of the latter institution to men and increasing its capacity at least fourteen beds.——The new tuberculosis sanatorium for Flint County is ready for occupancy. The institution is for advanced, indigent cases only.

MINNESOTA

Personal.—Dr. George D. Haggard, Minneapolis, has been appointed assistant quarantine inspector.——Dr. J. E. Engstad, Minneapolis, who was operated on recently at the Deaconess Hospital in that city for the removal of gall-stones, is reported to be making satisfactory progress toward recovery.

New Members of State Boards.—Governor Eberhard has appointed the following members of the State Board of Health: Drs. O. J. Hagan, Moorhead; Charles Lyman Greene, St. Paul, and Frank Bailor, Minneapolis.——Drs. F. B. Hicks, Grand Marais; D. J. W. Andrews, Mankato, and Charles H. Bolsta, Ortonville, have been reappointed members of the State Board of Medical Examiners.——Dr. W. J. Mayo, Rochester, has been reappointed a member of the State Board of University Regents.

Wesbrook Accepts British Columbia Presidency.—Frank Fairchild Wesbrook, dean of the College of Medicine of the University of Minnesota, has announced his acceptance of the presidency of the University of British Columbia, Vancouver, and expects to assume active duties by the middle of May. The institution over which he is to preside does not yet exist, excepting in the endowment of two million acres of provincial land and the earnest efforts of the people of British Columbia. Its material embodiment is a campus, well wooded, at Port Gray, near Vancouver. No buildings as yet have been erected nor has a faculty been appointed.——Dr. Wesbrook was the guest of honor at a banquet, February 12, given by the senior class of the medical school at which Dr. W. A. Jones presided as toastmaster. In response to the toast "Graduation," Dr. Wesbrook said: "You should help to lead the movement in this country whereby the medical profession will change its relationship to society as a whole. To a knowledge of medicine should be added a knowledge of statesmanship. If you do not take this step voluntarily and map out your own plan, somebody will do it for you."

MONTANA

New Officers.—Fergus County Medical Society at Lewistown, March 4: president, Dr. A. C. Biddle, Lewistown; secretary-treasurer, Dr. A. W. Deal, Butte.

State Sanatorium Ready.—The Montana State Sanatorium for Tuberculosis, Warm Springs, recently completed at a cost of $45,000, is now ready to receive patients. The institution consists of an executive building with two wings, each accommodating eight patients, and six cottages, each of which is equipped for two patients, but can, if necessary, accommodate twice that number.

NEBRASKA

Personal.—Dr. Maul, pathologist at the Hastings State Hospital, has accepted a position in the University of Denver.——Dr. W. D. Guttery, Pilger, has been appointed first assistant physician at the Norfolk State Hospital.——Dr. W. S. Fast, St. Joseph, Mo., has been appointed superintendent of the State Institution for the Feeble-Minded, Beatrice.——Dr. M. W. Baxter, Hastings, has succeeded Dr. W. B. Kern, Hastings, as superintendent of the State Hospital, Ingleside.——Dr. L. B. Pilsbury has been appointed assistant superintendent of the Lincoln City Hospital.

New Officers.—Jefferson County Medical Society at Fairbury, February 27: president, Dr. J. S. Taylor, Steele City; secretary-treasurer, Dr. A. J. Coats, Fairbury.——Harland County Medical Society at Orleans: president, Dr. William L. Sucha, Orleans; secretary-treasurer, Dr. Samuel M. Baker, Alma.——Fair County Medical Society at Hebron: president, Dr. Rudolph F. Decker, Byron; secretary-treasurer, Dr. Henry Hebron (reelected).——Custer County Medical Society at Broken Bow: president, Dr. J. H. Morrow, Merna; secretary, Dr. H. B. Landis, Broken Bow.

NEW MEXICO

Personal.—Dr. D. H. Galloway, Roswell, is reported to be seriously ill with pneumonia.——Dr. Frank de la Vergne, Albuquerque, has been appointed surgeon for a gold mining company at Gallop.——Dr. Francis T. B. Fest, East Las Vegas, has been made physician in charge of the United States Fruit Company's Hospital, Port Limon, Costa Rico.

Tuberculosis Within City Limits.—The Bernalillo County Medical Association at its last meeting adopted a resolution that the city council of Albuquerque was acting without clearly understanding conditions in prohibiting the erection of a sanatorium within a mile of the city limits, and that this action would be useless unless private rooming-houses were prohibited from receiving roomers suffering from tuberculosis.

NEW YORK

Pulmotors Given to Hospitals.—The Rochester Railway and Light Company has presented pulmotors to St. Mary's and the Rochester General hospitals, Rochester, and to St. Peter's and the Albany General hospitals, Albany.

Property for State Hospital Transferred.—About 130 acres of land in the town of Marcy have been transferred to the State of New York for $16,325. The property is to be used in connection with the new state hospital soon to be erected.

Clinical Meeting.—The first clinical meeting of the Tri-County Medical Clinic was held in Ellis and Mercy hospitals and the Children's Dispensary, Schenectady, March 6, when twenty-five operations were performed and many medical cases were presented, described and reviewed. The second clinic will be held in Troy in the fall.

Letchworth Needs New Buildings.—The annual report of the State Board of Charities has been transmitted to the legislature. It urges that an administration building be erected without delay and also an assembly hall and a service building for the Letchworth Colony. A number of smaller buildings are required, making the total appropriation $785,450.

The Accident Record.—The National Highways Protective Society has compiled figures giving the number of traffic accidents in the different cities of the state. For purposes of comparison the figures are reduced to a rate per 100,000 per annum and show for New York City 46, up-state 26, Buffalo 58, Syracuse 17, Rochester 66, Albany 36, Yonkers 85. These figures include accidents from all kinds of traffic. Of these automobiles furnish about 64 per cent. outside of New York City, street cars about 23 per cent. and wagons and miscellaneous the remainder. In New York City the proportion was about 50 per cent. for automobiles and 30 per cent. for street cars. The high rate for Yonkers is explained by its proximity to New York and because many highways out of New York pass through it, thus occasioning an automobile traffic greatly out of proportion to its population.

Hospital News.—Rev. Irwin Goddard has offered to contribute the $32,000 fund for St. Barnabas Hospital to Poughkeepsie for the building of a municipal hospital, provided $200,000 is raised in the city for that purpose.——Excavation for the buildings of the Winifred Masterson Burke Foundation Home for Convalescents, White Plains, has been begun. The total cost of the buildings will be about $1,000,000 and they are expected to be ready for occupancy about Jan. 1, 1915.——The new Saranac Lake General Hospital was formally opened March 11. The building is the gift of Miss Emily Dutton Proctor and her brother, Redfield Proctor, and is given in memory of Miss Jane Hopkins Fairchild and Dr. Norman McLeod Carter.——The new City Cancer Hospital, Buffalo, situated in the same block as the Buffalo General Hospital, will, it is expected, be completed in June.

Personal.—Dr. J. L. More, Pulaski, has been elected president and Dr. H. S. Albertson, Oswego, secretary-treasurer of the new Oswego County Tuberculosis Sanatorium, Orwell.——The residence of Dr. P. G. Borden, Chafee, was burned March 7 with a loss of $3,000.——Dr. R. A. Toms, Kenmore, who has been under treatment in New York City, has returned much improved.——Dr. Allan N. Moore, Lockport, fell on an icy step at his home, March 3, fracturing his right leg at the ankle.——Dr. Otto R. Eichel, superintendent of the J. N. Adam Memorial Hospital, Perrysburg, has resigned and has been succeeded by Dr. Clarence L. Hyde.——Dr. Charles J. Tucker, Rochester, while crossing the New York Central tracks recently, in his automobile, was struck by a freight train and painfully injured.——Dr. H. S. Liddle has been elected vice-president and Dr. George P. Harran, secretary-treasurer of the board of directors of Mercy Hospital, Schenectady.——Dr. Harold C. Goodwin has been continued as medical superintendent of the Albany Hospital.——Dr. Jacob Goldberg has been elected chairman of the board of medical examiners of Buffalo.

New York City

Fire in Physicians' Office Building.—A fire occurred on the morning of March 14 in the Sydenham Building which is devoted to offices for physicians. The sixth story of the building was gutted and the offices of Dr. Edmund Dill and Dr. Adolph Kaempfier were ruined.

Harvey Society Lectures.—The ninth lecture of the Harvey Society series, delivered March 22, at the New York Academy of Medicine was by Prof. Franz Knoop, University of Freiburg, Germany, on "Modern Problems of Nutrition." The tenth lecture will be delivered on March 29 by Prof. John Howland of Johns Hopkins University, on "The Scientific Basis for the Artificial Feeding of Infants."

Mary Putnam Jacobi Fellowship.—The Woman's Medical Association of New York offers this fellowship of $800 for post-graduate study. Applications for the year beginning Oct. 1, 1913, must be in the hands of the committee by April 1, and the award will be announced June 1, 1913. Further information may be obtained from Dr. Emily Lewi, 35 Mount Morris Park West, New York.

The Inwood Tuberculosis Hospital.—At a recent meeting of those interested in the Hospital and House of Rest for Consumptives, Inwood, Upper Manhattan, the reports of the officers showed a very gratifying year's work. The institution has at present sixty-five beds and will soon open ten additional beds for children. A woman's auxiliary has been formed to assist in the work of maintaining the institution.

Work of Hebrew Charities.—The United Hebrew Charities reports that during the past year it has aided 302 patients suffering from tuberculosis, and has in many instances given assistance that involved the living conditions of the family, the amount thus expended being $41,470. This institution has been discouraging congestion of population on the East Side and for the past thirty years has been giving pensions to widowed mothers.

Growing Interest in the Crippled.—The Conference on Industrial Education for Children which was held in the Metroplitan Building on March 8 gave a special session to the consideration of the needs of crippled children. It was shown that primary teaching was the special need of the younger children, while there was a great field for industrial training among the older crippled children. The meeting created so much interest that a resolution was adopted making this section a permanent feature of the conference.

Clinical Lectures and Demonstrations.—The governors of the New York Skin and Cancer Hospital announce a course of clinical lectures and demonstrations in the outpatient hall of the hospital on Wednesday afternoons from April 2 to 27, inclusive, by Dr. L. Duncan Bulkley on "Surgical Diseases of the Skin," and on May 14 by Dr. Bainbridge on "Surgical Treatment of Malignant Diseases." Each lecture will be illustrated by cases, models, colored plates, photographs, etc. The lectures will be open to the medical profession on presentation of cards.

New York Wasteful of Human Life.—E. E. Rittenhouse, conservation commissioner of the Equitable Life Assurance Society, at a meeting of the finance forum of the West Side Y. M. C. A., recently arraigned the city authorities for their neglect to provide enough money for disease prevention and health education. He stated that 30,000 lives a year were sacrificed unnecessarily. He pointed out that there are insufficient hospital facilities and that those provided are not properly equipped as to the number of physicians and attendants; that there are too few milk inspectors; no proper facilities for checking the spread of tuberculosis, and that there is not even sufficient provision for the prevention of the spread of contagious diseases. The city fathers spend $26 per capita to run the city, but only 65 cents of that sum is expended for health.

Personal.—Dr. Frank Schneider, instructor in the department of biology and public health in the Massachusetts Institute of Technology and research associate in the Sanitary Research Laboratories, has become sanitarian of the department of surveys and exhibits of the Russell Sage Foundation.——Dr. Robert Abrahams has been appointed manager of the Manhattan State Hospital.——A banquet was tendered Dr. William J. Robinson, editor of the *Critic and Guide*, March 7, at the Hotel St. Denis, at which Dr. Abraham Jacobi acted as toastmaster.——Dr. Alexis Carrel delivered an address before the Scientific Association of Johns Hopkins University, Baltimore, March 5.——Dr. Irwin E. Liss, an ambulance surgeon of the Lebanon Hospital, while endeavoring to protect a patient from injuries in an ambulance accident, sustained serious injuries and is in a critical condition.

Crocker Laboratory Assured.—The bequest of $1,566,635 to Columbia University for research work in cancer under the will of the donor, George Crocker, provided that the income from this fund was to be expended on research work alone and that no part of it was to be used for buildings. As a result the work has thus far been carried on in the laboratories of the College of Physicians and Surgeons. It is now announced that funds have been provided for the construction of a separate laboratory for cancer research work. The building will be erected on the property of the university known as East Field at Amsterdam Avenue and One Hundred and Sixteenth Street and will be 100 by 40 feet and three stories high. It is expected that the building will be ready for occupancy by the beginning of the summer. Dr. Francis Carter Wood was appointed director of the laboratory last summer.

The City's Spring Cleaning.—New York is in the throes of her first spring house cleaning. Commissioner Lederle had appointed Dr. M. B. McMillan, assistant sanitary superintendent, who formerly had charge of the sanitary campaign in Cuba, to take charge of the present task. Dr. McMillan says that the task of cleaning New York will be more difficult than that of cleaning Cuba because of the red tape by which everything is hedged about. The only way by which success can be attained, he states, is by the cooperation of the individual citizen. The city departments will each give active support to the work and many organizations have volunteered to lend their assistance, among them the Babies' Welfare Association, which includes a number of other organizations, the Tuberculosis Committee of the Charity Organization Society, the North Side Board of Trade, the Brooklyn Bureau of Charities and a number of lesser organizations. Dr. McMillan has asked the clergy of the city to devote a Sunday sermon to the movement.

NORTH CAROLINA

District Society Meetings.—Fourth Councilor District Medical Society at Rocky Mount: president, Dr. William H. Smith, Goldsboro; secretary-treasurer, Dr. M. M. Saliba, Wilson.——The annual meeting of the Seventh District Medical Society in Charlotte, March 11-12, was devoted entirely to clinical conferences.

Hospital Notes.—The legislature has granted a special charter for the Cone Memorial Hospital to be located in two divisions, one at Greensboro and the other at Blowing Rock. The institution possesses an endowment of $2,000,000.——Drs. Fred C. Hyatt, Charles E. Moore and Parran Jarboe announce the opening of the Greensboro Private Infirmary.

Personal.—Dr. Harry Q. Alexander, Matthews, has been appointed a member of the Constitutional Revision Committee of the State.——Drs. J. B. Golding, Greensboro, and William C. Horton, Raleigh, are reported seriously ill.——Dr. H. A. Royster, Raleigh, will deliver the address on surgery before the South Carolina State Medical Association at Rockhill, next month.

New State Appointees.—The following nominations were confirmed by the senate, just before adjournment: Drs. R. H. Lewis, Raleigh, and Edward J. Wood, Wilmington, members of the State Board of Health; Dr. Lewis B. McBrayer, Asheville, a member of the board of the State School for Feeble-Minded, Kingston; Dr. A. B. Croom, Jr., Maxton, member of the board of the State Hospital for the Insane, Raleigh; Drs. R. H. Lewis, Raleigh, and J. R. Gordon, Jamestown, members of the board of the State Sanitarium for Tuberculosis.

PENNSYLVANIA

Crawford County Publishes Bulletin.—The latest publication is the *Crawford County Medical Society Bulletin*, printed at Meadville.

Appeal of State Hospital.—The State Hospital, Fountain Springs, has made an appeal for an increased appropriation to make the needed improvements at the hospital. The chief requirements are a waiting-room, an increase in the size of the dispensaries, the establishment of a receiving ward and of an isolation ward for contagious diseases.

Personal.—Dr. James R. Montgomery, Bloomsburg, was operated on for the removal of gall-stones in the Bloomsburg Hospital on February 22, and is making a satisfactory recovery.——Dr. Thomas J. Goodfellow, Warren, for four years a member of the staff of the State Hospital for the Insane, North Warren, has resigned and will practice in New York City.——Dr. C. E. Rutter, Northumberland, was operated on for appendicitis at the Medico-Chirurgical Hospital, Philadelphia, March 4, and is reported to be doing well.

Philadelphia

Hospitals to Reduce Nurses' Hours.—Steps are being taken in Philadelphia hospitals to reduce the hours of the nurses to conform to the bill before the legislature, calling for an eight-hour day.

Medicine in Siam.—On March 21, the first of the lectures of the Philadelphia College of Pharmacy was held, when Dr Charles S. Braddock, formerly chief medical inspector to the Royal Siamese government, spoke on "Pharmacy and Medicine in Siam."

Alumni Clinics at Jefferson Hospital.—The staff of Jefferson Hospital arranged for two days of special clinics and demonstrations March 21-22, to be attended by alumni and their medical friends. Seven clinics were given on the first day and six on the second.

Jefferson Buys Sanatorium.—On March 11, the Board of Trustees of the Jefferson Medical College decided to purchase the property at Fifth and Pine streets owned by Henry Phipps and adapt it to the needs of a new Jefferson Institute for the treatment of diseases of the chest. This institution will be operated as one of the departments of Jefferson Hospital and will provide for the care of fifty-two bed patients, the greater portion being devoted to the care of advanced cases of tuberculosis. Large dispensary facilities will be available for the advice and treatment of all walking cases. Cases of pulmonary tuberculosis will be excluded from Jefferson Hospital. The management will be placed directly in charge of the medical department of the college with Dr. Thomas McCrae as medical director. The new department will greatly increase the dispensary service of the hospital, which totaled for the year ending May 31, 1911, 123,925 dispensary visits, an average of 340 walking patients treated a day, which does not include nearly 10,000 accident cases treated during the year.

TEXAS

Red Cross Classes Formed.—Two volunteer classes for Red Cross nursing and first-aid treatment have been organized among the women of El Paso. Dr. Alice P. Merchant has been elected president of the classes.

Pace Memorial to be Established.—Dr. John O. McReynolds has announced that plans will be undertaken immediately toward the establishment of the Pace Memorial Clinical Laboratory for Sick Children, Dallas, in memory of the late Dr. Jesse M. Pace, for many years a member of the faculty of the medical department.

Personal.—Fire in Grapeland damaged the office of Dr. P. H. Stafford to the extent of $1,000.——Dr. J. D. Magee, Abilene, who has been seriously ill, is reported to be out of danger.——Dr. H. C. Brownlee has resigned from the staff of the Austin State Hospital to accept the field directorship of the State Hookworm Commission, succeeding Dr. C. M. Hoch, resigned, to enter private practice at La Grange.

Commends Alsberg and American Medical Association.—Grayson County Medical Society at its meeting, March 4, adopted resolutions endorsing the course of Dr. Carl Alsberg in the enforcement of the Food and Drugs Act, promising its cooperation and support especially in the suppression of patent and proprietary frauds, commending THE JOURNAL of the American Medical Association for its fight against fraud, and calling on the medical profession throughout the country to join in this great fight for reform.

Medical Examiners Named.—The governor has nominated the following members of the State Board of Medical Examiners: Drs. W. B. Collins, Lovelady; W. L. Crosthwaite, Waco; George L. Baber, Winnsboro; J. H. Evans, Palestine, and E. B. Osborn, Cleburne; homeopathic representatives—Drs. T. J. Crowe, Dallas, and Dr. H. C. Morrow, Austin; eclectic representatives—Drs. M. E. Daniel, Honey Grove, and George W. Johnson, San Antonio; osteopathic representatives—J. F. Bailey, McLennan County, and Paul M. Beck, Bexar County.

State Association Meeting.—Elaborate arrangements are being made for the annual meeting of the State Medical Association of Texas at San Antonio, May 6-8. On the evening before the meeting, public health services are to be held in all the churches in San Antonio. On Tuesday night the memorial meeting will be held and on the following afternoon, the visiting ladies will be taken for an automobile ride about the city. On Wednesday evening a ball will be held, and for the delegates who do not dance, a dinner will be given at the Travis Club.

GENERAL

Bequests and Donations.—The following bequests and donations have been announced recently:

German Hospital and St. Catherine's Hospital, Brooklyn, each $5,000, in the will of Louis Bossert, Brooklyn.

Tuberculosis Prevention for Children, Farmingdale, N. J., $10,000, from an anonymous benefactor.

Maine State Sanatorium, Hebron, $75,000, to be known as the Levi M. Stewart fund, the interest to be used for the benefit of the institution, by the will of Levi M. Stewart.

Methodist Episcopal Hospital, Philadelphia, $5,000, for a free bed, to be known as the George W. Young bed, by Mrs. E. McCouley.

Bryn Mawr (Pa.) Hospital, $50,000 for the establishment of a free bed in the children's ward in memory of her brother and $5,000 for a free bed in memory of her parents, by the will of Miss Kate Clevenger, Lower Merion.

Charity, Lakeside, St. John's and St. Alexis hospitals, Cleveland, $35,000, the first installment by the will of Calvary Morris.

Sanatorium for Hebrew Children, Rockaway Park, N. Y., $20,000, by the will of Caroline Neustadter.

German Charity Ball, New York City, $10,000, distributed among nine institutions.

Report of Board of Health of Hawaii.—The report of the president of the Board of Health of the territory of Hawaii for the year ending June 30, 1912, is a book of over two hundred pages, and contains much interesting information concerning the health and sanitary condition of the islands. The work of the health department involves practically the same problems as those found in other tropical or semitropical countries, the mosquito problem as relating to yellow fever being one of the prominent ones. During the year covered by the report, however, yellow fever was not present to any great extent. Leprosy is perhaps the greatest problem peculiar to the islands, the total number under care in the different institutions being 686. There were 64 deaths from leprosy during the year. During the year there were small epidemics of plague, scarlet fever and diphtheria. Pneumonia caused 342 deaths and tuberculosis 363. Under the territorial laws tuberculosis is well reported, and except in the instance of cases under care of private physicians, complete records of cases of tuberculosis are kept, so that any case may be followed from the time it is first reported to its outcome. Six cases of plague occurred in the island of Hawaii. A systematic rat campaign is being conducted, and many thousands of rats were examined for plague during the year. On the basis of a population of about 200,000 the death-rate was 16 per thousand, as compared with 17 the previous year. About two hundred deaths were due to accident, violence and suicide; deducting these, the death-rate would compare favorably with any of the states or municipalities in this country. The report shows that well-directed efforts are being made to improve housing conditions in the cities and on the plantations, and to improve the methods of preparing and handling food-supplies. As elsewhere the health department is handicapped by insufficient financial support. Much work in this line is being done by the proprietors of plantations, and donations of money and materials are made to the health department by private persons and corporations. The report is illustrated by numerous pictures of conditions on the islands, and much statistical information is contained in the large number of tables included in the pamphlet.

FOREIGN

Other Deaths Abroad.—Sir Thomas Frederick Chavasse, Kt., J.P., M.D., Edinburgh, 1876; F.R.C.S. England and Edinburgh; eminent as a surgeon; consulting surgeon to the Birmingham General Hospital and a member of its staff for thirty-one years; died suddenly from pulmonary embolism at his home in Birmingham, February 17, aged 58.——Alfred Baynard Duffin, M.D., Edinburgh, 1858; emeritus professor of medicine in Kings College Medical School, London, and consulting physician to Kings College Hospital; died at his home in Wallington, Surrey, England, February 10, aged 79.——Ernest Maynard Paine, B.A., M.B., Ch.M., Sidney, Australia; a missionary of the New South Wales Church Missionary Association in old Cairo, Egypt; died February 12, in Cairo, from cerebrospinal meningitis.——Surgeon-General George Bidie, C.I.E., Indian Medical Service, retired; M.D. Aberdeen and L.R.C.S. Edinburgh, 1853; for thirty years a member of the Indian Medical Service, retiring in 1890; honorary surgeon to Queen Victoria, King Edward VII. and King George V.; who served with the Hyderabad contingent during the Indian mutiny; died at Bridge of Allan, Scotland, February 19, aged 81.——Prof. A. Podvyssotzky, director of the institute for experimental medicine at St. Petersburg.——F. Fede, professor of children's diseases at the University of Naples, and one of the leading pediatrists of Europe, died February 11, aged 81. He had long been a member of parliament and his voice was often raised on behalf of the necessity for a chair of pediatrics at every medical school and the necessity for a thorough examination in this branch for a medical degree. This is said to have been his "delenda Carthago" whenever he had occasion to speak on the floor. The contributions to pediatrics from him and his pupils are numerous and important.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 8, 1913.

A Surgical Innovation

The multiplicity of medical schools in London, each complete in itself with its own staff and its own students, has always been one of the difficulties for any one wishing to pursue medical studies here. There are a dozen medical schools attached to one of the great hospitals and leading an existence so isolated from all the others that they might as well be hundreds of miles apart. No system of intercommunication of any kind has existed among them. At last the idea occurred to some prominent surgeons that the loss from practically never seeing the work of the colleagues in other hospitals might be remedied. It seemed to them somewhat invidious to go unasked into each others' theaters. A movement was therefore set on foot to approach a prominent member of the surgical staff of each of the hospitals in London with a medical school attached, who in turn should consult his colleagues with view to some arrangement to advance the study of the practice of surgery. The suggestion was received with favor, a committee was formed, and it was decided that each hospital should once in the year issue invitations to all the members of the surgical staffs of the London medical schools. This is to be done by the hospitals in the order of seniority. Bartholomew's, being the oldest, took the lead. Four surgeons operated at 2 p. m. and the remainder of the surgical staff at 2:45 The visitors, who consisted entirely of surgeons from the other hospitals, occupied the floors of the theaters. Though only thirty surgeons attended out of a possible eighty, the function was a most successful one, and great interest was shown in the operative procedures and in the theater and nursing arrangements.

The Working of the Insurance Act

The harassing and unnecessary clerical work thrown on physicians by the insurance act has been referred to in previous letters to The Journal. The not inconsiderable amount of labor in signing the medical tickets is now practically over. It is unfortunate that the act came into force at the time of the year when practitioners are busiest. In spite of this and the fact that a number of insured persons call on physicians out of curiosity, however, the Medical Committee for London is able to state that the average number of patients seen by doctors on the panels in some of the most densely populated areas is only about 2 per cent. of those on their lists. The large proportion is seen at the offices and comparatively few in the patients' homes. The burdensome clerical work is being replaced by a system which it is said will give less trouble than the bookkeeping of private practice. A pharmacopeia is also being prepared.

New Roentgenotherapeutic Department at the Cancer Hospital

At the annual general meeting of the governors of the Cancer Hospital the Medical Committee reported that 535 operations were performed during the year, the mortality being 4.48 per cent. The new roentgenotherapeutic department had enormously increased the usefulness of the hospital, and the enhanced facilities for the diagnosis and treatment of the disease afforded by the modern apparatus and appliances has resulted in greatly increasing the number of patients relieved or cured. Dr. Knox, the director, reported that he was working out a complete system of Roentgen-ray dosage with the assistance of Dr. Salmond, and he hoped in the near future to elaborate a technic which should materially assist in the relief of patients suffering from cancer. The changes which had occurred in the blood of patients undergoing treatment were also being investigated with the object of obtaining, if possible, some data on which statistics could be based as to why some cases responded to the treatment and others did not. An appeal was made for the sum of $5,000 for the purpose of starting a much-needed cancer library.

Lowest Death-Rate on Record; Great Fall in Infant Mortality

Statistics of births and deaths for the last quarter of 1912 have just been issued by the registrar-general. and show that the records have again been equaled or beaten. Deaths registered in England and Wales numbered 124,861. an annual rate of 13.6 per thousand persons living. This is 1.5 per thousand below the mean rate in the ten preceding fourth quarters, and is equal to the rate recorded in the corresponding period of 1911. which was the lowest death-rate recorded in any quarter since the establishment of civil registration. Of the deaths. 20,884 were of infants under 1 year of age. This was equal to 98 per thousand, or 33 per thousand below the average in the ten preceding fourth quarters.

The rate is the lowest recorded in any corresponding quarter since 1870. the first year in which records of this kind were kept. the next lowest having been 113 per thousand in the fourth quarter of 1911. A total of 212,856 births were registered. equal to a rate of 23.1 annually per thousand of the population. This was 2.4 per thousand below the mean rate in the ten preceding fourth quarters, but 0.1 per thousand above the rate in the corresponding period of 1911, which was the lowest birth-rate recorded in any fourth quarter. The natural increase in the population during the year was 385,818, as against the quinquennial average of 395,462.

The Street Perils of London: Want of Ambulance Provision

The alarming increase of accidents in London since the development of motor traffic has been referred to in previous letters to The Journal. The returns of the board of trade for 1911, which have just been published, show that the number of accidents is greater than ever. They amounted to 20,589, of which 435 were fatal.

This alarming increase is attributed to increasing congestion of traffic and to the indiscriminate mingling of vehicles proceeding at various speeds. The motor omnibus appears to be responsible for more deaths than the street-car. Not long ago a motor bus knocked down and killed a policeman who was regulating the traffic. In spite of the increased number of accidents there is still no proper and efficient ambulance service outside the city, where there is a motor service. In other parts of London the only service consists of stretchers on wheels, which are under the management of the police.

The Workmen's Compensation Act

As shown in previous letters, the workmen's compensation act is constantly giving rise to fresh legal problems. In the following case a point occurred which has never been raised before: A workman sustained an accident causing partial incapacity, and his employers were paying him his full wages for light work, without any agreement being recorded or any award being made, when heart disease supervened, rendering him unfit for any kind of work. The heart disease was not in any way due to the accident. The employers then desired to discontinue the arrangement.

In proceedings taken at this point a judge made an award refusing to order the continuance of any compensation on the ground that the man's incapacity was due to the heart disease, which would have rendered him unable to work in any case if there had been no accident. The case was then carried to the court of appeal, which reversed the decision of the lower court and held that a workman in such circumstances was entitled to compensation until it was proved that he had completely recovered from the effects of the accident. A supervening infirmity, which might be heart disease or paralysis, or which might be mere failure of powers through old age, did not affect this. The case was accordingly remitted to the lower court to fix the rate of compensation.

Polluted Oysters and Typhoid

Owing to the occurrence of typhoid fever in a man who had been in the habit of eating oysters, an investigation was undertaken by the London health department. The oysters were relaid Portuguese taken from a laying in the Medway. and were found to be contaminated with sewage. Their further sale has been prohibited. Dr. Collingridge, health officer of London. says that the only way to prevent the danger of typhoid fever from recurring is to empower local authorities to close all contaminated beds, pits and layings within their jurisdiction until they are free from pollution, subject to the control of the local government board.

The Tropical Diseases Exhibition at Ghent

The British government has made arrangements for taking part in the tropical diseases exhibition to be held at Ghent this year. The London School of Tropical Medicine, the Liverpool School of Tropical Medicine, the Cairo and Khartum schools, the navy and the army will be represented. Each of these organizations has been given certain diseases to illustrate in a popular manner, so that people may realize what is being done to make the tropics habitable to mankind. The cases will contain specimens of the insect pests which are the cause of the spread of disease in the tropics, with examples of the culture of bacteria taken from their blood, and numerous microscopic and photographic views of the development of the different stages. In all. thirteen diseases will be illustrated The London School of Tropical Medicine will make a complete display of the work in progress in connection with cholera. beriberi and elephantiasis, including any fresh information available consequent on the outbreak of cholera among the Balkan troops. The Liverpool school will set out the work that is being carried on against yellow fever and sleeping-sickness, diseases in which the school has specialized for a long time. The admiralty will exhibit what has been done by the fleet surgeons in the matter of undulant fever, more commonly known as Malta fever, and due to the goats of the island. The war office will take up that scourge of all armies. typhoid fever, and will depict the results of the study in the prevention and cure of the disease. Plague comes under the direction of the India office, and Dr. Andrew Balfour of the Egyptian service will make a special exhibit dealing with leprosy and other Eastern diseases. Most, if not all, of the exhibits will make an important feature of the part played by flies, mosquitoes, fleas and rats in the distribution of disease.

Part of the display is intended to inform the public how best to guard against these insect pests. Mosquito-proof houses, mosquito-proof clothing, and even mosquito-proof books are to be on view. A rat-proof house will be included in the departmental exhibits. There will be several examples of foods which have been deprived of their nutritive qualities, such as polished rice, which causes beriberi. The Liverpool school, which deals with this subject, will exhibit tinned foods from which the nutritive properties have been withdrawn in the process of preserving.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Feb. 28, 1913.

Treatment of Amebic Abscess of the Liver by Emetin

Subcutaneous injections of soluble salts of emetin have recently been proposed by Rogers as a method of treatment in amebic dysentery and in abscess of the liver of the same origin (The Journal, July 20, 1912, p. 226, and Sept. 21, 1912, p. 971). At the meeting of the Académie de médecine, February 25, Dr. Chauffard, professor of clinical medicine at the Faculté de médecine de Paris, reported a case of amebic abscess of the liver opening into the bronchial tubes which was quickly healed by emetin hydrochlorid. When the treatment was begun the fistula had persisted for five months and the amount of reddish pus raised each day was from 200 to 250 c.c.; an ulceration existed in the rectum; the temperature varied between 35 and 38 C. (95 and 100.4 F.); the general health was poor, and the roentgenographic examination showed an opacity extending from the base of the right lung and blending with the shadow of the liver. From December 21 to 25 six injections of emetin hydrochlorid, each 0.04 gm., were given and were supported perfectly, with hardly any pain and without producing any nodules of local induration. The expectoration was reduced on the second day from 200 c.c. to 150 c.c., on the third to 60 and on the fourth to 45; on the fifth day sputum was raised only three times and after that not at all. At the same time the temperature dropped permanently to normal. The leukocyte count fell from 49,000 to 19,800 and the polynuclears from 77 to 63. The rectal ulcerations healed and the base of the right lung became clear. The patient has recovered completely since and has increased in weight 6 kg. (13 pounds).

Statistics of Physicians, Pharmacists, Midwives and Dentists

The following are the official statistics for the year 1911:

Physicians	20,809
Pharmacists	11,589
Midwives	13,066
Dentists	2,848

Chair of Hygiene and Clinical Medicine for Diseases of Early Childhood

A chair for the theoretical and practical teaching of this subject, which has not heretofore been on the program of the Faculté de médecine de Paris, has been established at the suggestion of the dean, Professor Landouzy.

Increased Cost of a Medical Degree

The Conseil supérieur de l'instruction publique has voted to raise the cost of obtaining a diploma as doctor of medicine. Since 1893 the cost has been 1,395 francs ($275), but will now be 1,640 francs ($325). The increase of 245 francs ($50) has been made necessary by additions to the course together with the increased number of examinations required. Of the new total, the universities will receive 950 francs ($190) and the treasury 690 francs ($135).

Reform in Examinations

The Commission supérieur de l'enseignement médical, at its recent session, made a new rule. At the suggestion of Professor Teissier of Lyons, approved by Professor Debove and Dr. Lucas-Championnière, the examining boards hereafter will have one member chosen by the Académie de médecine. It is hoped in this way to combat the tendency toward favoritism which has often shown itself at examinations.

It is of interest to note that in the preliminary discussion the commission found itself divided into two factions. One faction emphasized the desirability in the preliminary training of teachers of extended theoretical knowledge. This was the view of Dr. Weiss, professor at the Faculté de médecine de Paris, and Dr. Lucas-Championnière. The other faction, among whom was Dr. Widal, believed that practical training and individual research should take precedence.

The Paul Segond Foundation

A number of friends, colleagues and pupils of the late Paul Segond have planned a memorial fund in honor of the memory of this eminent surgeon. The income will be used to help interns approved by the council of the Faculté de médecine de Paris to pursue research work and to prepare for their examinations.

A Priest-Healer in Court

The court at Pennes has fined Abbé Chaupitre 1,000 francs ($200) and awarded damages against him in favor of the Syndicat des médecins d'Ille-de-Vilaine and the Syndicat des pharmaciens of the same department, of 3,000 francs ($600) each. This is the third time that the abbé, who is known throughout the region as the priest-healer, has been in the police court. His defense was that he practiced homeopathy, and that as this system is not recognized by law, he was not amenable to the law. The court did not fall in with this view.

Personal

The Académie de médecine has elected Alexis Carrel of New York and Arnozan of Bordeaux national correspondents.

Following the death of V. Podvyssotzky, director of the Institut de médecine expérimentelle at St. Petersburg, this post was offered to Metchnikoff, assistant director of the Institut Pasteur de Paris. Metchnikoff declined, giving as one reason the fact that in Russia he would not have at his command so important a bacteriologic laboratory as the one at the Institut Pasteur.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Feb. 28, 1913.

Personal

Professor Lubarsch of Düsseldorf has succeeded the deceased Professor Heller as director of the institute of pathology at Kiel.

Professor Jores of Cologne has been appointed director of the institute of pathology at Marburg.

Professor Henkel of Königsberg has been appointed director of the institute of pathology at Breslau, as successor to Professor Ponfick.

Professor Hoffman of Prague has been appointed in place of Prof. L. Hermann as director of the institute of physiology at Königsberg.

February 21, the widow of Rudolph Virchow died at the age of almost 81. She was a sister of the Berlin gynecologist Mayer. Until her death she enjoyed a rare activity of mind, of which I received several proofs during the last year through letters from her. Although, in accordance with her modesty of character, she never courted publicity, she was a splendid companion to the gifted investigator. His high regard and respect for her will be seen on reading the "Letters of Rudolph Virchow to his Parents," which were published several years ago.

Friedmann's Tuberculosis Remedy

I notice that the puffs for the Friedmann remedy in the American newspapers continue without restraint. It seems as if there must be some organized agency working systematically for this propaganda.

Bavarian Research on Effects of Athletics

The Bavarian department of education has approved the addition of an experimental laboratory for the Royal National Institute for Gymnastic Exercises at Munich, for the investigation and measurements of the effects of individual gymnastic exercises, plays and sports. The medical work in connection with this laboratory will be carried on under the direction of Dr. Hans von Baeyer, privat-docent for surgery at the University of Munich. The influence of physical exercise on the human organism, on the breathing, heart-action, etc., is to be determined on scientific principles and with the help of physiologic methods, so as to discover their temporary and permanent beneficial and harmful effects. Further, those pursuing the present two-year course for the training of physical directors will be instructed in making such measurements on the pupils, so that in cooperation with the future school-physicians satisfactory material for a more thorough scientific foundation for athletics in general may be available.

Admission of Foreigners to the Prussian Universities

The minister of education recently stated to a committee of the Prussian parliament that foreigners have always enjoyed an extensive right of hospitality in the German universities, which fact is also of value to Germany, as in this way advantageous connections between foreign countries and Germany are cultivated. Of course, the foreigners must appreciate the hospitality and should not interfere with the studies of the native students. In order to limit the number of foreign students, the minister has doubled the admission fees of foreigners to the institutes; further, the same preliminary requirements will be exacted, as far as possible, as from the native students, and Russian students, in particular, must be graduates of Russian gymnasiums. The foreigners are crowding the universities at Königsberg, Breslau, Berlin and Halle especially. The strike of the students at Halle was caused by tactless administration of a ministerial decree; the minister has now remedied the cause, and hereafter admission to the clinics will be conditioned on the preliminary education. Further measures for the limitation of the number of foreign students were considered. It was recommended in this committee to admit only a certain percentage of foreigners, as for instance in Munich, where only three out of a hundred are admitted.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 2, 1913.

Death of Professor Frank

Vienna lost recently one of its most prominent surgeons, Prof. Rudolph Frank, who died from the consequences of a septic angina (tonsillitis). The deceased professor, who was only 50 years old, had been one of the favorite pupils of the late Albert, famous for his keen observation and diagnostic acumen. Frank was chiefly a surgeon who regarded the human body as an artistic structure, and he was very fertile in designing clever plastic operations. He was also an expert abdominal surgeon, and his many pupils were well trained, especially in the two lines of surgery mentioned above. The kind-hearted professor will be sorely missed by his large clientele.

Austrian Sanitary Preparations in the Event of War

The experience gained in the recent Balkan War has shown that none of the belligerents was really prepared, from the sanitary point of view, for the tasks imposed by the exigencies of war. The various European branches of the Red Cross had to give assistance extensively; otherwise the wounded men would have simply perished from sheer want of medical aid. The knowledge thus gained on the battle-field was embodied in a series of lectures and discussions before the Vienna Gesellschaft der Aerzte. One of the most interesting of these was delivered by Professor Hochenegg, the director of the state surgical clinic at Vienna. He reviewed the whole military and sanitary problem which Austria would have to face in case of a war—a probability by no means unlikely just now. Three points are important: the medical assistance, the system of nursing and the materials used for sanitary purposes.

MEDICAL ASSISTANCE

Exact calculations seem to show that a minimum of about 100,000 wounded soldiers would have to be cared for at one time in case of war, which our country may be obliged to wage in the near future. Of these, 80,000 would be the lot of Austria, 40,000 of Hungary. The Austrian Red Cross will accommodate 10,000 men in its hospitals. The rest of the 50,000 would have to be made fit for transport in the field hospitals and then be sent to the rear into surgical wards. For this purpose 250 wards, each containing 200 beds, would be required (twenty beds in one room). Each ward would require the services of one head surgeon and two surgical assistants. In this respect Austria would have to depend quite on herself, as no help from the outside would be forthcoming. In distributing the reserve physicians among the regiments little attention is at present paid to their surgical abilities.

THE SYSTEM OF NURSING

We have too few nurses fit and trained for service in war. We are not well equipped in this. For 50,000 wounded, a minimum of two thoroughly competent nurses per ward is indispensable, making 500 head nurses. The second class of nurses is derived from those who are trained to assist in the hospitals; these need not be completely trained for independent surgical nursing. Of these, three nurses per room with twenty beds would probably be sufficient, making a total of 7,500. We do not possess so many "sisters," and therefore would have to rely on volunteer nurses. Since a large number of such nurses would also be required for the convalescent houses, the contagious hospitals, and for substitution in the civil hospitals, from which the regular nurses would be called to serve in the war, at least 25,000 female nurses would be necessary.

MATERIALS FOR SANITARY PURPOSES

An interesting study deals with the enormous amount of dressings, etc., required in case of war. No less than 10,500,000 meters (12,000,000 yards) of cotton dressings and roll bandages would be needed for 50,000 wounded, as such bandages and dressings would have to be constantly renewed. At times we have already had difficulty in buying such material in the open market because enormous quantities have been sent to the Balkan battle-fields, and the factories could not produce enough to meet all the demands. Therefore in time of peace the supply depots must be well stocked with this kind of material.

OTHER CONSIDERATIONS

An important point for medical preparation deals with the care of war-epidemics. Professor Kraus has recently organized a method for this purpose in Bulgaria, and the work begun by him there will be continued here. Easily transportable laboratories have been established, and a staff of nurses is being formed.

It is important to develop the Austrian Red Cross, for in this country it has only 60,000 members, against 600,000 in Germany and over 2,000,000 in Japan. In the discussion, Professor Clairmont declared that private nursing in the Balkans has simply been a farce, and Professor Fränkel also declared that the present method is absolutely inadequate. He said that if women want the rights of men they must also submit to the duties of men; and since men are enlisted in the army of fighters women ought to be recruited for the army of nurses. Interesting data were given by Head-Staff-Surgeon Steiner. He said that the military authorities were prepared to deal with more than double the number of beds mentioned by Professor Hochenegg. The problem of replenishing the materials used for dressings is solved by the letting of large contracts. The sanitary service is also guaranteed. Only the nursing is not yet quite up to date as regards numbers. It may be added that as regards india-rubber material, which deteriorates by keeping and non-usage, only a small stock is kept because in case of need it can be had at once from the factories under contract to furnish it. A final plan for the regulation of the burning problem of nursing is just now being worked out, and will be brought to the public notice within a short time.

Jubilee of Professor Chiari

Otto Chiari, the well-known rhinolaryngologist, celebrated his sixtieth birthday a short time ago, when the esteem and love of his pupils and friends were impressively shown. Apart from more personal honors, like banquets and congratulations, a *Festschrift* was published in honor of the scientific achievements of the professor. Numerous Anglo-American surgeons are just now staying at the Chiari Clinic, and they too took the opportunity of paying their respects to the senior of this branch of medicine in Austria.

Statistical Data for 1912

An interesting report dealing with vital statistics of Vienna for 1912 was recently prepared and read by Dr. Böhm, the head physician of the Vienna Board of Health. Chief attention is centered around the figures dealing with the mortality of the city. In 1912 Vienna not only reached but even surpassed all other European capitals in the low rate of mortality. It stood as low as 14.6 per thousand inhabitants; even the healthiest English and German cities show no lower figures. Altogether 32,131 persons died in Vienna last year against 33,684 in the previous year (14.6, representing 15.68 per thousand). Ten years ago the figure was 17.89 per thousand. The drop in mortality means a saving of over 30,000 lives within the last decade. The real significance of this welcome fact is not apparent until the deaths are grouped according to the age incidence. Here it becomes manifest that the drop in the number of deaths is due chiefly to improved hygienic conditions and the increased expectancy of life of infants. While ten years ago nearly 9,000 infants and 7,200 persons over 60 years of age died, last year a complete reversal of these figures took place: only 6,000 infants died in 1912 and nearly 10,000 persons over 60 years old; among the latter were 1,434 octogenarians, against 1,180 in 1903. Consequently a decided change of morbidity also was found. All diseases peculiar to infancy and childhood have diminished in frequency and fatality, while such diseases as may be called exhaustion diseases, or those caused by the wear and tear of life, are on the ascending line. For instance, diseases of the respiratory organs were reported as fatal in 4,174 instances against 5,290 in 1903 (tuberculosis excluded; this has gone down from 7,748 to 6,298 in spite of increase of population). The alimentary canal claimed 2,911 victims against 3,865, while the circulatory system was fatally diseased in 4,835 cases (in 1903 3.302 cases), and malignant growths claimed 2,753 (2,137) persons. The preventable, accidental diseases had become less frequent; arteriosclerosis, cancer, myocarditis more frequent, and more of old age appeared in the death-roll. The consideration of these figures leads to the conclusion that while the duration of life is much prolonged in Vienna now, a distinct drop in the number of births is not less conspicuous (Vienna Letter, THE JOURNAL, Jan. 25, 1913, page 300). In Vienna alone, only 40,503 living children were born in 1912, while ten years ago the figure was 45,930, and twenty years ago 50,327, when the population was 500,000 less. The lessened fertility is a general fact in all European countries except three or four, and cannot altogether be accounted for by economic reasons. It has already become a problem of the utmost importance in England, France and Germany, and appears here too. Therefore strenuous efforts are being made to lessen at least infant mortality, and all the measures adopted for this purpose by the various societies for the care of infants, by the hygienic societies, the school boards and the like, aim at the same goal. The fact remains that in Vienna alone the birth of infants has been 100,000 less within the last twenty years than one would have been justified in expecting.

Miscellany

Small-Pox

For small-pox as a community disease there are two methods of treatment—vaccination and hospitalization.

For fires as a community ailment there are two methods of treatment—fire-proof construction and fire engines.

To prevent small-pox, most states use both methods. Minnesota and a few neighboring states say, If everybody is vaccinated there will be no small-pox. It is unjust to make the vaccinated pay for expensive small-pox hospitals. The quickest way to get everybody vaccinated is to make it impossible for the unvaccinated to impose on the vaccinated.

"We will not support small-pox hospitals." A thoroughly logical position—one that will be tenable when knowledge is better diffused and human judgment is better. But as yet we have not reached the stage where all men are judgmatical enough to make it fit. The peculiarly minded minority so tyrannize the majority that few health officers deem the Minnesota policy best.

No one has yet proposed to do away with fire engines and thus force everybody to fire-proof construction.

Compulsory vaccination laws have been enforced in every European country for about a quarter of a century. With them this question has not been open for debate for about a generation, except in England. In Cuba, Porto Rico, Panama and the Philippines it is also demonstrated, proved, accepted and no longer discussed. When, however, it is proposed to do as much for the children of Louisville as we have done for the Filipino, there rises up a small but noisy group, shrewd enough to cry out in the name of liberty. License would be a better term, but it is not catchy, and Bellamy has termed this a phrase-catching age.

In this group there are no men who have had any practical experience in controlling small-pox. That all of those, whether engineers, nurses, or doctors of the different schools, who have been charged with the responsibility of handling small-pox are firm believers in the efficacy of vaccination is a source of great concern to the antivaccinationists, and, in consequence, they seek to borrow some names to conjure with. Their prize package is Sir Alfred Wallace.

Now, what are the facts about Sir Alfred that would lead any one to think his judgment on this point can be safely followed? He was born in 1823. In 1858 he dreamed out the theory of natural selection almost simultaneously with Darwin. As soon as he got over the chills he went to England, got into close touch with Darwin, and, for fifteen years, fought the battle of Darwinism.

In the middle seventies he renounced religion and in 1881 became a spiritualist and aligned himself against the material and in favor of spirit direction soon thereafter. In 1885 he wrote "Forty-Five Years of Registration Statistics," in which he sought to prove that the statistics showed that small-pox was not on the decrease from 1840 to 1885.

He never had any experience with small-pox or vaccination, disease prevention, hygiene or sanitation, and therefore the conclusions of this old man, honored though he justly was, represent nothing except the conclusions of an antimaterialist drawn from the somewhat imperfect statistics of a period when vaccination was quite imperfect. It would take more than Wallace to convince the man of the street that there is as much harm from small-pox as there used to be.—Dr. W. A. Evans, in the Chicago *Tribune.*

Intelligence and Wealth.—The village of Greenwich, Conn., boasts fifty-seven millionaires. These millionaires have children and wives. The estates they own are valued at around $10,000 per acre. It is perhaps the highest-priced suburban property in the world. Greenwich has also mosquitoes, and a special brand—anopheles. In consequence, last year this village had 900 cases of malaria. Some of these probably meant neurasthenia or other ills for the rest of their victims' lives. There is no finer foundation for chronic invalidism. In this epidemic, for such it was, were included the children and the wives of the rich. Malaria is not, like tuberculosis and many other maladies, a luxury of the poor. Nor is it a filth disease. It has one, and only one, cause: the anopheles mosquito. This discovery is now twelve or fifteen years old. No educated physician in the world any longer questions it. Panama is the everlasting monument to this discovery. But for this discovery we should have failed in building the canal, as the French failed, and for the same reason: anopheles. With all this in mind (the regular health officer having done nothing), one o two intelligent physicians of Greenwich asked the town committee for an extermination fund—$5,400. The committee refused. Then the fifty-seven millionaires were appealed to and they royally subscribed $280.—*Collier's Weekly.*

By-Effects of Neosalvarsan.—A. Bayet of Brussels says that the necessity for retracting early statements follows prema ture publications as the shadow follows the solid body. But he yields to the request of the *Presse médicale belge* (1912, lxiv 755), and reviews his experience with neosalvarsan. He has found that the immediate disturbances following injection of neosalvarsan are less than with salvarsan, but the phenomena later show that there is little if any difference in the actua toxic action of the two drugs. Even in his brief experience (April to September) he has had two severe cases showing this toxic action. One was in a man of 24 with syphilis of three months' standing; 0.07 gm. of neosalvarsan was injected and eleven days later 0.08 gm. Immediately fever and a scarlatinal eruption developed and he vomited for two days, but there was no headache. The fourth day these symptoms had subsided but both legs and the bladder then became totally paralyzed, with other signs of profound injury of the nerve centers in the lumbar region, but nothing to indicate meningitis or polyneuritis, syphilitic paraplegia or a nerve relapse. The Wassermann test was negative. In the second case bilateral neuritis of the nerves of the forearm with atrophy of one interosseus muscle followed five injections in two weeks, amounting to a total of 2.5 gm. of neosalvarsan.

Another Father Damien.—The English King has done a good deed. He has made Dr. George Turner a knight. Who is Sir George Turner? Few, in America at least, except medical specialists know him, but those specialists know him as one of the greatest authorities on the subject of leprosy. When he was practicing as a physician and medical officer in South Africa, the leper hospital at Pretoria made a great appeal to him; such a great appeal, indeed, that he gave up all his spare time to work among the lepers. He would go to their hospital morning and night, and devoted all of his Saturdays and Sundays to them. For years he labored among them without pay of any sort, investigating the nature of the terrible disease, and doing all he could to ease the lot of the sufferers. On reaching the age limit Dr. Turner retired from his official duties and went to England to pursue further his studies into the source of leprosy. After several years of work the disease attacked him. But he still labored on in his investigations, though life now meant ever-increasing pain, disfigurement, and consequent seclusion. He has now, it is reported, lost his left arm. The story goes that he was recently asked to dinner by some admirer, to whom he replied: "I should be glad to go, but I am a leper, you know." It is a pleasure to learn that Dr. Turner's name was included on the King's own initiative.—*Outlook.*

One Danger From Incompetent Practitioners.—Our community was shocked in the extreme when a young man of our town (Sunbury) shot the chief of police, who never regained consciousness and died about twelve hours afterward. A stray shot also injured the young man's father but not seriously. The history of the case shows that the mental condition of the young man had been below par for more than three years and that he became serious about one year ago, when under the care of two local physicians. They made a diagnosis of dementia praecox, which was sustained by Dr. Mills of Philadelphia, and Dr. Meredith of Danville. Not improving at home, he was placed under treatment as a private patient at Danville for some time, after which his father (not by the advice of his physicians) brought him home. He was then placed under the care of an osteopath from Harrisburg. The father was assured that he could expect great improvement by this treatment and was beguiled into believing that his son was decidedly better. Ten days before the homicide the boy refused to take his treatment and could not be induced by appeal or reason to continue the treatments. The father then determined to compel him to take the treatment and then take him to a sanitarium for further treatment. The father asked the chief of police to assist him in taking the young man to Harrisburg and then to the sanatorium. It seems the young man anticipated this move for he had procured a revolver and the moment his father and the chief of police entered his room he began the deadly shooting. Reflecting on this case and two other cases in the experience of the editor, we wondered if it would not be wise to have the law prohibit the removal of a patient suffering from so grave a disease as dementia praecox even if he were a private patient. Is an osteopath competent to diagnose so grave a malady, and is it not nearly so great a crime to hold out false hopes of recovery against the judgment of superior physicians, as the homicide itself? Is not this a strong plea that osteopaths should be trained in diagnosis and prognosis as well as the regulars?—Northumberland County (Pa.) *Medical Society Notes.*

Marriages

Frederick George Hubbard, M.D., to Miss Olga L. Johnson, both of Cayuga, N. Dak., at St. Paul, Minn., March 7.

Harry F. Hoffmann, M.D., Rittersville, Pa., to Miss Ruth Virginia Peabody of Westerly, R. I., March 4.

Vernon C. Morton, M.D., Rantoul, Ill., to Mrs. Ella Oakman of Peoria, Ill., in Chicago, March 5.

Harris A. Bolton, M.D., Warm Springs, Mont., to Miss Maud Smith of Racine, Wis., March 8.

Alva Curtis Foster, M.D., to Mrs. M. E. Phillis, both of Decatur, Ill., March 1.

Benjamin H. Matthews, M.D., to Miss Anna Lyman, both of Denver, recently.

Louis Daniel Smith, M.D., to Miss Rose Robbins, both of Chicago, March 9.

Elias Bruce Moss, M.D., to Miss Ethel Marie Davis, both of Chicago, March 1.

Deaths

Roland Gideon Curtin, M.D. a prominent practitioner of Philadelphia; died at his home, March 14, aged 73. Dr. Curtin was a native of Bellefonte, Pa.; was naval store keeper at the Philadelphia Navy Yard during the Civil War and was graduated from the University of Pennsylvania, Philadelphia, in 1866. He was a member of the American Medical Association; a member and president in 1892 of the American Climatological Association; president of the Philadelphia Medical Club in 1905; of the Philadelphia County Medical Society in 1904 and of the American Society of Tropical Medicine in 1905. He was assistant physician to the Philadelphia Lying-In Charity Hospital for eleven years; chief of staff of the medical dispensary of the University Hospital for ten years; physician to the throat and chest department of the Howard Hospital for six years; once president of the medical board of the Philadelphia Hospital; visiting physician to the University and Presbyterian hospitals; and consulting physician to the Rush Hospital for Consumptives, Jewish, Frederick Douglass and St. Timothy hospitals.

In 1868 he served as surgeon to the United States Geological Survey; he was lecturer on physical diagnosis in his alma mater from 1875 to 1895 and contributed more than one hundred articles to the medical literature. During the centennial at Philadelphia he was assistant medical director; in 1871 he was given the degree of Ph.D. by the University of Pennsylvania and in 1883 the degree of A.M. by Lafayette College.

James Livingston Thompson, M.D. Rush Medical College, 1860; emeritus professor of ophthalmology in the Indiana University School of Medicine, Indianapolis; a member of the American Medical Association; assistant surgeon and surgeon of Volunteers and finally medical director for the western district of Kentucky during the Civil War; an ophthalmologist well known throughout the Middle West; died at his home in Indianapolis, March 5, from pneumonia, aged 80.

Frederick Charles Johnson, M.D. University of Pennsylvania, Philadelphia, 1883; president of the Wilkes-Barre *Record* Company; formerly a member of the American Medical Association, the Pennsylvania State Board of Charities and a member of the Medical Society of the State of Pennsylvania; a historiographer of more than local prominence; died at his summer home near Dallas, Pa., March 5, aged 54.

Patrick Frederick Gildea, M.D. College of Physicians and Surgeons, New York City, 1889; of Colorado Springs, Colo.; a member of the American Medical Association, American Association for the Study and Prevention of Tuberculosis and American Laryngological, Rhinological and Otological Society; died in Coronado, Cal., March 6, from heart disease, aged 47.

Michael Henry Foy, M.D. New York University, New York City, 1898; a member of the surgical staff of St. Joseph's Hospital, Yonkers, N. Y.; examining physician for the New York Central and the Yonkers Railway Company; died in St. Joseph's Hospital, March 5, from septicemia, three days after an operation for appendicitis, aged 39.

Scott Culbertson, M.D. University of Louisville, Ky., 1876; Bellevue Hospital Medical College, 1879; a member of the Indiana State Medical Association; a specialist on diseases of the eye, ear, nose and throat of Vevay, Ind.; auditor of Switzerland County from 1909 to 1913; died at his home in Vevay, February 13, aged 60.

Robert Shuter Macrum, M.D. University of Pennsylvania, Philadelphia, 1897; a member of the American Medical Association; president of the Board of Health of Sewickley, Pa., and the head of the electro-therapeutic department of the Sewickley Valley Hospital; died at his home, March 4, aged 44.

James Barclay, M.D. McGill University, Montreal, 1897; of Montreal; demonstrator of obstetrics in his alma mater; later a surgeon on the Elder-Dempster Steamship Line; medical inspector for the United States Immigration Bureau in Montreal; died in Cowansville, P. Q., February 24, aged 38.

Thomas Moody, M.D. Tulane University, New Orleans, 1880; one of the oldest practitioners of Paris, Tex.; for forty-five years a practitioner of Lemar County and for several years county physician; a Confederate Veteran; died at his home in Paris, Tex., March 3, from senile debility, aged 80.

James Daniel Cox, M.D. College of Physicians and Surgeons, Baltimore, Md., 1892; a member of the Medical Society of the State of Pennsylvania; vice-president of the First National Bank of New Salem and for thirteen years a school director; died at his home in New Salem, March 9, aged 51.

John W. McDonald, M.D. University of Edinburgh, Scotland, 1871; L.R.C.S., Edinburgh, 1896; a member of the American Medical Association; at one time secretary of the Hennepin County Medical Society; professor emeritus of surgery in Hamline University; died at his home, in Minneapolis, March 4, from heart disease, aged 68.

Louis E. Norris, M.D. Berkshire Medical College, Pittsfield, Mass., 1861; assistant surgeon of the Seventeenth Maine Infantry and Second Maine Cavalry throughout the Civil War; for half a century a practitioner of Hampden Highlands, Me.; died in the Paine Hospital, Bangor, Me., March 2, from pneumonia, aged 76.

Alexander Taylor Bell, M.D. College of Physicians and Surgeons, New York City, 1858; a surgeon in the Confederate service during the Civil War, serving with Stuart's Horse Artillery; died at the Maryland Line Confederate Soldiers' Home, Pikesville, February 24, aged 77.

Roger Burns Gladden, M.D. University of Arkansas, Little Rock, 1888; of Purdy, Mo.; formerly a member of the Missouri State Medical Association and a representative in the state legislature from Barry County; died in State Hospital No. 3, Nevada, March 5, aged 59.

Walter Kendall Jewett, M.D. Harvard Medical School, 1895; librarian of the University of Nebraska, Lincoln; for several years a practitioner of Fitchburg, Mass.; died in St. Elizabeth's Hospital, Lincoln, March 3, four weeks after an operation for appendicitis, aged 42.

James N. Powell, M.D. University of Louisville, Ky., 1852; for more than forty years a practitioner of Henderson County, Ky.; one of the founders, and for many years a member of the Corydon School Board; died at his home in Corydon, March 8, from senile debility, aged 74.

Rush H. Dew (license, West Virginia, years of practice, 1881); a member of the Harrison County Medical Society; for nearly fifty years a practitioner and for thirty-three years a resident of Salem; died, February 21, from carcinoma of the throat, involving the larynx.

James F. Robertson, M.D. Detroit (Mich.) Medical College, 1877; a member of the Kansas Medical Society; mayor of Caldwell, Kan., for one term; died at his home, March 5, as the result of injuries received in an automobile accident three months before, aged 57.

John Davies Trezise, M.D. Long Island College Hospital, Brooklyn, 1901; a member of the Medical Society of the State of New York; for many years connected with the health department of Brooklyn; died at his home, March 4, from pneumonia, aged 50.

James Edwin Clemens, M.D. University of Louisville, Ky., 1881; surgeon for the Texas and Pacific Railroad at Marshall, Tex., from 1884 to 1886; for several years a practitioner of Washington, D. C.; died at his home in New Orleans, February 27, from uremia.

Ephraim Winnie, M.D. University of Michigan, Ann Arbor, 1857; a member of the Medical Society of the State of New York; for fifty-five years a practitioner of Steuben County; died at the home of his daughter in Hornell, February 19, aged 77.

James M. Amis, M.D. Kansas Medical College, Topeka, 1898; of Topeka; formerly assistant coroner of Shawnee County; died in the Cottage Hospital, Galesburg, Ill., March 3, from disease of the kidneys and heart, aged 40.

Arthur G. Six, M.D. Starling Medical College, Columbus, O., 1897; died at his office in Lawrence, Mich., March 11, from the effects of gunshot wounds, believed to have been self-inflicted with suicidal intent while despondent.

James Marshall Kent, M.D. Lincoln (Neb.) Medical College, 1906; Nebraska College of Medicine, Lincoln, 1907; formerly of Kenesaw, Neb.; died at his home in Encampment, Wyo., February 28, from uremia, aged 30.

Merritt Allen Long, M.D. Tufts College Medical School, Boston, 1905; of Lowell, Mass.; a member of the Massachusetts Medical Society; died in the Lowell General Hospital, March 4, from pneumonia, aged 37.

Peter Borland, M.D. Cooper Medical College, San Francisco, 1897; of Tomales, Cal.; a surgeon on the Panama Line of the Pacific Mail Steamship Company; died in Acapulco, Mex., January 5, from pneumonia.

Charles Francis Storrs, M.D. University of Vermont, Burlington, 1853; the oldest practitioner of DuPage, County, Ill.; died at his home in Warrenville, from carcinoma of the prostate, March 3, aged 80.

Herbert L. Townsend, M.D. University of Vermont, Burlington, 1881; a member of the Vermont State Medical Society; died at his home in Bridport, February 27, from anemia, aged 52.

David N. Finley, M.D. Hahnemann Medical College, Chicago, 1895; a member of the staff of Agatha Hospital, Clinton, Ia.; died at his home in that city, March 6, from senile debility, aged 82.

Peter Breadalbane Stewart, M.D. University of Vermont, Burlington, 1898; formerly of Iron River, Wis.; died at his home in Chetek, Wis., March 3, from heart disease, aged 46.

Samuel S. H. Washington, M.D. Howard University, Washington, D. C.; a colored practitioner of Alabama since 1887; died at his home in Montgomery, February 24, aged 54.

Albert Job Evans, M.D. Hahnemann Medical College, Philadelphia, 1871; formerly of Lockport and Fredonia, N. Y.; died at his home in Pasadena, Cal., February 26, aged 67.

Price W. Atkins, M.D. College of Physicians and Surgeons, Baltimore, Md., 1878; a member of the Medical Society of Virginia; died at his home in Marion, March 2, aged 57.

Eben Riley Rice, M.D. Miami Medical College, Cincinnati, 1876; of Monticello, Ky.; died March 1, from cerebral hemorrhage, while making a professional call, aged 77.

Daniel I. McMillan, M.D. Northwestern University Medical School, Chicago, 1869; died at his home in Sunbeam, Ill., February 25, from cerebral hemorrhage, aged 75.

Stephen Howard, M.D. University of Pennsylvania, Philadelphia, 1866; of Bottineau, N. Dak.; died in a hospital in Brandon, Man., March 1, from heart disease, aged 70.

Warren Franklin Roberts, M.D. Hahnemann Medical College, Chicago, 1884; of Marshall, Mich.; died suddenly in that place, March 3, from heart disease, aged 51.

Ephraim Welty (license, years of practice, Iowa, 1886); for nearly fifty years a practitioner of Norwalk; died at his home in that place, February 1, aged 72.

Robert D. Darnell, M.D. American Medical College, Eclectic, St. Louis, 1882; a pioneer practitioner of Kalama, Wash.; died at his home, February 18, aged 57.

Owen F. Hildebrandt, M.D. Medical College of Ohio, Cincinnati, 1902; formerly of Cincinnati; died at his home in Owensville, O., March 3, aged 37.

Alfred Henry Savard, M.D. Laval University, Montreal, 1881; died at his home in Northampton, Mass., February 12, from peritonitis, aged 50.

Royal Gray Hamilton, M.D. Rush Medical College, Chicago, 1876; died at his home in Ocheyedan, Ia., January 14, from senile debility, aged 84.

Edgar J. Washington, M.D. Marion-Sims College of Medicine, St. Louis, 1896; died at the home of his father in St. Louis, February 25, aged 36.

Robert J. May, M.D. Detroit (Mich.) College of Medicine, 1892; died at his home in Matamora, Mich., March 2, from pneumonia, aged 42.

James H. Millikin, M.D. University of Nashville, Tenn., 1869; died at his home in Franklin, Ky., March 1, from senile debility, aged 82.

George W. Evans, M.D. Jefferson Medical College, 1865; of Richmond, Ky.; died suddenly, February 27, from heart disease, aged 70.

Hamilton Graham, M.D. Hahnemann Medical College, Philadelphia, 1892; died at his home in Kennett Square, Pa., February 22.

A. J. Scofield, M.D. Ensworth Medical College, St. Joseph, Mo., 1893; died at his home in Quenemo, Kan., February 10, aged 60.

Hiram D. Brown, M.D. Berkshire Medical College, Pittsfield, Mass., 1854; died at his home in Potsdam, N. Y., February 18, aged 77.

Walter Hardy Ramsey, M.D. Memphis (Tenn.) Medical College, 1873; died at his home in Memphis, February 22, aged 60

Alexander McKelvey, M.D. Trinity Medical College, Toronto, Ont., 1878; died at his home in Brussels, Ont., Dec. 29, 1912.

George C. Way, M.D. Jefferson Medical College, 1875; died at his home in Altoona, Pa., about February 26, aged 65.

C. E. Smith, M.D. Memphis Hospital Medical College, 1901; of Baxterville, Miss.; died at his home, February 22.

James A. Smith, M.D. Rush Medical College, 1872; died at his home in Norway, Ia., March 1.

The Propaganda for Reform

FLOURS AND FOODS FOR DIABETICS

Dangerous Products Sold Under Misleading Claims

We have at different times called attention to the misconceptions which exist in the minds not only of the public but also, unfortunately, of many physicians regarding so-called gluten flours and diabetic foods. The most dangerous error is the assumption that gluten flours are practically free from starch. Curiously enough—and yet not so curiously, if one remembers the evil forces that have attempted to cripple the pure food law—this danger has increased rather than decreased since the advent of the federal Food and Drugs Act.

"Gluten Flour: Guaranteed to Conform to the Government Standard" sounds well, but means little. It means little because the government standard makes no requirements regarding the starch-content, which is the item of importance from the point of view of the diabetic, but merely prescribes that it shall contain at least 35 per cent. protein. Nor is this all. Under the ruling that has been in force for some time in the department—a ruling, by the way, that was promulgated by Solicitor McCabe and "Me-Too" Dunlap and strongly opposed by Dr. Wiley—a flour containing 17.5 per cent. protein may be legally labeled "Gluten Flour ½ Standard." The absurdity of this is apparent when it is realized that, under it, ordinary flour (which contains about 10 or 11 per cent. protein) might legally be labeled "Gluten Flour ⅓ Standard." Dr. Wiley fought against this idiotic and dangerous ruling but was voted down by those who, during their administration, showed such solicitude for the food sophisticators.

Gluten flours are as a rule prescribed only for diabetics to whom the starch-content is of the utmost importance. A physician tells his patient to use a gluten flour not because that product is rich in protein but because it is (supposedly) poor in carbohydrates. The great majority of so-called gluten flours and gluten foods sold in this country contain dangerously high percentages of carbohydrates, and the manufacturers do their best to keep both physician and patient in ignorance of this fact. In the case of gluten flours of legal standard, the protein-content is emphasized and made the main selling point. The subject of starch-content is studiously avoided, and it becomes necessary to write letters to the manufacturers specifically asking for the carbohydrate-content of their products, which may then be grudgingly—and not always truthfully—given.

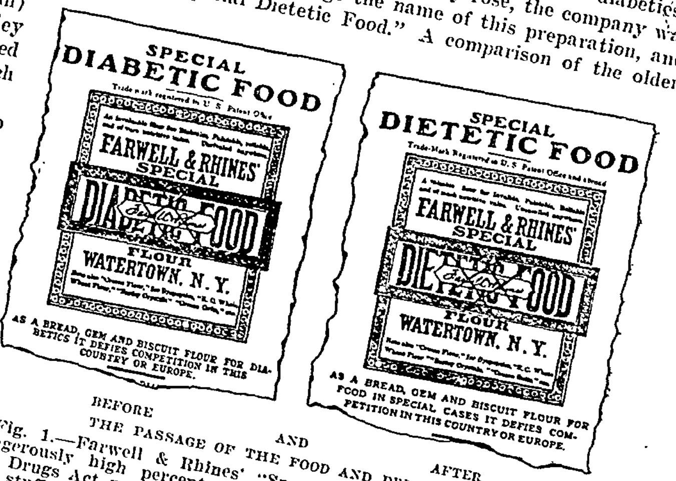
For the purpose of determining the status of some of the most widely advertised flours and foods for diabetics, a Chicago physician wrote to the manufacturers of these preparations asking for their advertising matter and specifically requesting that he be told the carbohydrate-content of the different products. The result of the investigation follows. It must be remembered that in every instance, unless otherwise stated, the figures are the manufacturers' own. It will be seen that, even accepting the exploiters' own statements regarding the starch-content, the preparations are as a class viciously dangerous as foods for diabetics.

BRUSSON GLUTEN BREAD

This product is put out by Brusson Jeune, Villemur, France, and it is handled in this country by Gustav Muller & Co., New York. So far as we can learn the advertising matter sent out by this concern gives the purchaser no information regarding the starch-content of Brusson Gluten Bread. As in the case of most products for diabetics dangerously high in starch, an attempt is made to give the impression that starches are not so deadly for diabetics as physicians believe. This attitude on the part of the company will not be wondered at when it is known that according to its own admission—made when asked point blank—Brusson Gluten Bread contains 49.77 per cent. of starch! Within the last few months, the American agent for Brusson Jeune has been sending out, with other advertising matter, a testimonial letter by Willard H. Morse, M.D., Hartford, Conn. If anything further were needed to condemn these products a testimonial in their favor from Willard H. Morse supplies that need. As most of our readers know, Morse makes a practice of supplying testimonials and fake analytical reports on various medical and medicinal frauds. He has endorsed such humbugs as the Ideal Sight Restorer, Towns' Epilepsy Cure, the Oxydonor, Duffy's Malt Whisky, L. Q. Lloyd's consumption cure, E. J. Woods' cure for drunkenness, Oleozone consumption Cure, Manola, Daniel's Passiflora Incarnata and numerous others.

FARWELL & RHINES' GLUTEN FLOUR

Farwell & Rhines' methods have been the subject of criticism in The Journal before. Their product is dangerously high in carbohydrates (46.05 per cent.), and the methods of advertising are particularly vicious. In their circulars and other advertising matter they refer to the protein-content of their product but avoid giving any information regarding the amount of starch. If, however, a physician will write asking for an analysis of the Farwell & Rhines' Gluten Flour, they send a small sticker on which the analysis is printed. If the company's pronouncement that this is "a flour for diabetics" means that it is a safe flour for diabetics, the statement is not only false but also dangerous. Time was, and not so long ago, when Farwell & Rhines advertised their "Special Diabetic Food," which they said was "an invaluable flour for diabetics." As the standards of commercial honesty rose, the company was apparently forced to change the name of this preparation, and it became "Special Dietetic Food." A comparison of the older label with the newer shows how it is possible to violate the spirit of a law while grudgingly conforming to its letter.


SPECIAL
DIABETIC FOOD
Trade mark registered in U. S. Patent Office
FARWELL & RHINES'
SPECIAL
DIABETIC FOOD
FLOUR
WATERTOWN, N. Y.
AS A BREAD, GEM AND BISCUIT FLOUR FOR DIABETICS IT DEFIES COMPETITION IN THIS COUNTRY OR EUROPE.
SPECIAL
DIETETIC FOOD
Trade-Mark Registered in U. S. Patent Office and abroad
FARWELL & RHINES'
SPECIAL
DIETETIC FOOD
FLOUR
WATERTOWN, N. Y.
AS A BREAD, GEM AND BISCUIT FLOUR FOR FOOD IN SPECIAL CASES IT DEFIES COMPETITION IN THIS COUNTRY OR EUROPE.

BEFORE AND AFTER
THE PASSAGE OF THE FOOD AND DRUGS ACT

Fig. 1.—Farwell & Rhines' "Special Diabetic Food" contains a dangerously high percentage of carbohydrates. When the Food and Drugs Act went into effect, it would have been difficult to sell this stuff under its old name and escape prosecution. The problem then became: How can we fool the people and at the same time obey the letter of the law? The answer appears in the photographic reproduction of the labels given above. On the left is the old label; on the right, the new one. The "Diabetic" food became a "Dietetic" food; the "flour for diabetics" became a "flour for food in special cases."

HEINTZ FOOD COMPANY

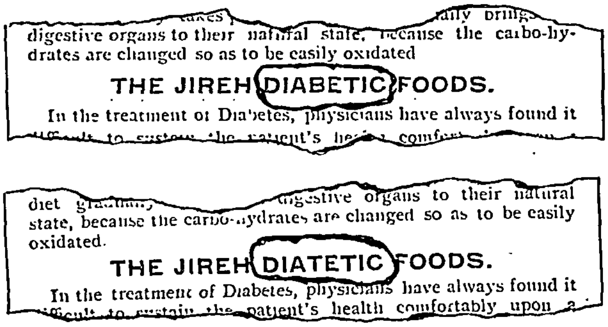
This concern, located in Chicago, manufactures a product which used to be called "Heintz Diabetic Biscuits," but which is now sometimes called the "Heintz Gluten Biscuits," and again "Heintz Glutin Biscuits." To call them diabetic biscuits was such an evident fraud that it became necessary to change the name. It seems to be difficult at present to get the Heintz Food Co. to say just how much carbohydrates their gluten biscuits contain. Two years ago they stated glibly in answer to an inquiry: "There is less than 5 per cent. of carbohydrates in the diabetic biscuit." This was a falsehood. When written to within the past few weeks, the company stated regarding its gluten or "glutin" (*née* diabetic) biscuit that it "contains a small percentage of carbohydrates." They said further:

> "We use for its manufacture a gluten flour which contains about 10 per cent. of starch; this we dilute with a certain percentage of bran, which has been deprived of its starch."

The reader is led to infer, of course, from this statement that Heintz Gluten (or "glutin") Biscuits contain only about 10 per cent. of carbohydrate. This we doubted, and we doubted because we knew that two years ago when they claimed that their "Diabetic Biscuit" contained less than 5 per cent. of carbohydrates, it actually contained about 50 per cent. Their later product, therefore, was submitted to the chemical laboratory of the American Medical Association for the determination of the carbohydrate content. The Association's chemists reported that instead of finding "about 10 per cent. of starch" they actually found 51.64 per cent. of carbohydrates.[1]

JIREH DIABETIC FOOD CO.

Recently[2] we had something to say regarding this concern and its so-called diabetic products. The selling point of the Jireh concern is not that their foods are starchless—a claim they could hardly make and "get away with"—but that the starch has been "changed" or, as they have put it more recently, "treated." The claim that the starch had been "changed" was fraudulent, and the later modification—that it has been "treated"—should not be taken seriously. Like the razors in the story, the Jireh Diabetic foods and flour are "made to sell." Two years ago the manufacturers admitted that the Jireh Flour contained 73.02 per cent. carbohydrates—practically the same amount found in ordinary flour. The more recent circulars do not give the carbohydrate percentage, but contain what purport to be the results of analyses to determine the *starch* percentage—the amount of dextrin, sugar, etc., is not mentioned. According to this later list, Jireh Flour contains 58.59 per cent. of starch which, even admitting it to be no understatement of the facts, is sufficient to condemn the product. The "Jireh Diabetic Biscuit" contains over 60 per cent. (64.52) of carbohydrates and, evidently to escape prosecution, the firm has changed the name of this product to "Jireh Diatetic Biscuit." This seems to be the keynote of the Jireh concern in its attempt to "get around" the federal Food and Drugs Act. Of course, there is no such word as "diatetic," but it is sufficiently like the word "diabetic" to mislead the average person. Apparently it is the intention of the Jireh Diabetic Food Company to invade the medical journal advertising field. This, at least, is what one would infer from the appearance in the *Southern Practitioner*—a sheet that offers an advertising haven for many of the widely advertised therapeutic frauds on the market—of what purports to be an original article by one Dr. George Morse Norton. The "article" is entitled "The Value of Starch-Treated Foods in the Dieto-Therapy of Diabetes Mellitus." It is typical of a class of articles, fortunately seldom seen to-day in the pages of decent medical journals, but once a common method of advertising proprietary preparations. It has the outward semblance of a scientific article and discusses the history, definition, pathology, etiology, etc., of the disease—all of the matter, apparently, having been obtained from ordinary text-books. The joker appears when the reader reaches the part of the article devoted to the "treatment"; this section is practically nothing but a rehash of the Jireh Diabetic Food Company's advertising matter.



digestive organs to their natural state, because the carbo-hydrates are changed so as to be easily oxidated

THE JIREH DIABETIC FOODS.

In the treatment of Diabetes, physicians have always found it

diet digestive organs to their natural state, because the carbo-hydrates are changed so as to be easily oxidated.

THE JIREH DIATETIC FOODS.

In the treatment of Diabetes, physicians have always found it patient's health comfortably upon a

Fig. 2.—The "Jireh Diabetic Foods" are no more suited for diabetics than is ordinary bread. Hence, under the Food and Drugs Act, to label such products "diabetic foods" would constitute misbranding. The Jireh concern evades the law by changing one letter, the "b" in diabetic to "t," and the coined and meaningless word "diatetic" is the result. It is the letter of the law that kills. Here are photographic reproductions of portions of pamphlets sent out before and after the Food and Drugs Act went into effect.

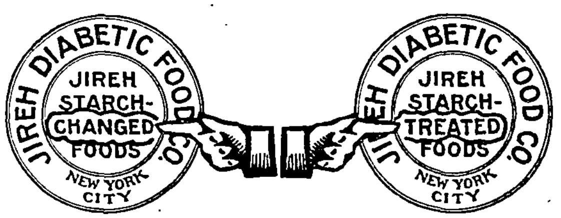


Fig. 3.—The Jireh concern for years claimed that their diabetic foods were "starch-changed"; they were not. To-day they are labeled "starch-treated." Whether this statement is any nearer the truth than the old one is immaterial to the diabetic, for the Jireh products are utterly unsuited for the diabetic's dietary. Here are their trademarks before and after the enactment of the Food and Drugs Act. The lines drawn around, and the "fists" pointing to, the words "changed" and "treated," have been added by us before reproducing the trademarks.

BOND GLUTEN DIABETIC FLOUR

The Bond Gluten Diabetic Flour is put on the market by the Mayflower Mills, Fort Wayne, Ind. Very little advertising matter is sent out by the concern and apparently no information regarding the carbohydrate-content of the product is given unless specially requested. To a letter written two years ago asking for the carbohydrate-content of Bond's Gluten Diabetic Flour, the firm replied that it contained 40 per cent. gluten and that they had another flour "that carries 80 per cent. of gluten." The company then added, somewhat ingenuously:

> "*We do not know what percentage of starch either of these flours would contain, but you can readily see that they are genuine flour and of the very highest quality.*"

Written to more recently on the same subject, the Mayflower Mills replied:

> "*The last analysis of our Bond's Gluten Diabetic Flour showed* carbohydrates 50 per cent. and the gluten per cent. [*sic*] three times the amount found in the best wheat flours."

Needless to say, Bond's Gluten Diabetic Flour is a dangerous product for diabetics and should be declared misbranded under the Food and Drugs Act.

P.-L. GLUTEN FLOUR

P.-L. Gluten Flour is made by the Pieser-Livingston Co., Chicago. This company in its advertising circulars and letterheads publishes an analysis of its flour, giving the percentage of moisture, nitrogen and gluten but making no mention of the amount of carbohydrates. When asked for the starch-content of their flour, they send a typewritten letter in which it is admitted that the product contains over 50 (51.28) per cent. of carbohydrates. The Pieser-Livingston Company publishes what purport to be testimonials from Chicago and other physicians. These testimonials, if genuine, are not such as to inspire confidence in the medical profession. For instance one Chicago physician writes that he has compared the analysis of the P.-L. Gluten Flour with the analyses of flours of other makes and

> "I find your flour better in 'Proteids' and less sugar than other makes. *Gladly recommend it to all physicians and those troubled* with 'Diabetes' and stomach trouble."

Another Chicago physician also has made a comparison of analyses and he writes:

> "I am led to believe that it contains more gluten and less sugar, or dextrose, than any other flour of its kind in the market. I would, therefore, recommend it to all physicians to be prescribed for patients suffering with diabetes."

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[1] Incidentally, the Heintz Food Company makes another product, Heintz Health Biscuits. These are claimed to be a "natural laxative" and are also said to be "non-medicated"; in fact, "there is not a bit of any kind of medicine in them." When examined in the Association's laboratory about two years ago, the drug phenolphthalein was found as an ingredient. The state chemists of North Dakota have examined them more recently and report finding the same drug.

[2] Propaganda Department, THE JOURNAL, Dec. 14, 1912, p. 2174.

Still another testimonial from a well-known Chicago physician is "featured" a little more than some of the others. This runs, in part:

> "I am using your gluten flour in cases of diabetes and that I find it useful where only a small amount of starch is to be incorporated in the diet."

Ordinary wheat flour contains about 73 per cent. of carbohydrates; P.-L. Gluten Flour contains, on the manufacturer's own statement, over 50 per cent. How it is possible to feed a patient with bread made from flour containing more than 50 per cent. of carbohydrates and at the same time give that patient "only a small amount of starch" is matter for speculation. The P.-L. Gluten Flour is no flour for a diabetic.

PURE GLUTEN FOOD COMPANY

This company markets various products under the name of "Hoyt's Gum Gluten." It advertises in medical journals more extensively, probably, than any other manufacturer of so-called diabetic foods. In its advertisements, appears this statement:

> "In all cases where non-starch diet is indicated, prescribe only Gum Gluten Foods."

The viciousness and cruelty of this advice may be realized when it is learned that, even according to the manufacturers, the various Hoyt Gum Gluten products contain carbohydrates ranging from 40.63 per cent. up to 48.2 per cent. As in the case of most exploiters of products of this kind, the protein-content of the different preparations is emphasized and enlarged on. For instance, can more grossly misleading claims be made than these that appear on the packages of the various Gum Gluten products:

> "The extracted and concentrated strength of wheat."
> "The rich albuminous muscle-building element which furnishes the body with what it needs without taxing it."
> "The only true food for those having diabetes."
> "The nitrogenous food of the twentieth century."
> "Endorsed by the medical profession as a perfect food."

In view of these claims, the following testimonial, alleged to have been written by a Brooklyn doctor, is a gem:

> "These preparations are all you claim for them."

WILSON BROTHERS' GLUTEN FLOUR 4/7 STANDARD

This is the flour that, above all others, makes the present ruling of the Department of Agriculture on what constitutes a "gluten flour," a joke and a disgrace. The stuff is said to contain 20 per cent. of protein. The government standard for gluten flour requires 35 per cent. So far as we are able to learn the amount of carbohydrates is not given in any of the advertising matter put out by Wilson Brothers. They do give, however, what purports to be an analysis by Gustave Mannel, an analytical chemist of Rochester, N. Y. Mr. Mannel certifies that he has analyzed a sample of Wilson Brothers' product and finds it "very rich in gluten." He then makes the following remarkable statement—remarkable, that is, in view of the admission that the firm itself makes when held down to it:

> "A very small percentage of starch remains with the pure gluten, and this combination forms a special food of high merit where starch is not wanted. This flour contains more gluten and less starch than any flour I have ever analyzed."

Now Wilson Brothers will admit—if you insist—that their product contains 64.1 per cent. of carbohydrates. In view of this fact, Mr. Mannel's idea of percentages seems somewhat mixed. Few people would consider 64.10 (the amount of carbohydrate in the Wilson product) "a very small percentage" when compared with 74.0 (the percentage of carbohydrates in ordinary flour). As has already been said, Wilson Brothers' preparation contains 20 per cent. of gluten and 64.1 per cent. of carbohydrates, and yet Mr. Mannel says that it "contains more gluten and less starch" than any flour he has ever analyzed. Evidently his experience in analyzing gluten flours has not been an extensive one.

SUMMARY

So much, then, for some of the most widely advertised products for the use of diabetics. They are one and all advertised *under claims that are either directly or inferentially* false or misleading. They all contain percentages of carbohydrates that are dangerous in the extreme to real sufferers from diabetes. Their continued sale under present methods is a menace. Every product sold for the use of diabetics should be required by law to have plainly stated on the label the percentage of carbohydrates it contains. Every physician who is treating a diabetic should make it his business to find out the percentage of carbohydrates in any flour or food that he thinks of recommending to his patient. He is not justified in telling his patient offhand to give up the use of ordinary bread and flour and use a "gluten bread" or "gluten flour." For, as we have shown, a flour may be legally labeled gluten and still contain dangerously high percentages of carbohydrates, and it is the carbohydrates that are the essential elements so far as the diabetic is concerned.

DANGEROUS PRODUCTS SOLD TO DIABETICS

Manufacturer and Product	Carbohydrate Percentage
Brusson-Jeune Co., New York City.	
Brusson Gluten Bread	49.77
Farwell & Rhines, Rochester, N. Y.	
Gluten Flour	46.05
Heintz Food Co., Chicago.	
Gluten (Glutin) Biscuit	51.64
Jireh Diabetic Food Co., New York City.	
Jireh Diatetic Biscuit	64.52
Jireh Flour	58.59
Jireh Bread	39.12
Mayflower Mills, Fort Wayne, Ind.	
Bond Gluten Diabetic Flour	50
Pieser-Livingston Co., Chicago.	
Pieser-Livingston Gluten Flour	44.30
Pure Gluten Food Co., New York City.	
Hoyt's Gum Gluten Biscuit Crisps	43.85
Hoyt's Gum Gluten Breakfast Food	44.52
Hoyt's Gum Gluten Flour	47.40
Hoyt's Gum Gluten Granules	43.84
Hoyt's Gum Gluten Noodles	48.20
Hoyt's Gum Gluten Self-Raising Flour	40.63
Wilson Bros., Rochester, N. Y.	
Gluten Flour	64.10

THE EMETIC ACTION OF THE DIGITALIS BODIES

To the Editor:—In The Journal, Feb. 1, 1913, p. 371, was an editorial statement as follows:

> "An important deduction from the work of Hatcher is that the mode of administration and the preparation have only a minor influence on the production of nausea by the digitalis bodies, and that this symptom indicates the beginning of toxic action and hence a point at which caution should be exercised. Instead of seeking for a form of the drug which will not produce nausea, or for a method of checking it, we should remove the cause by suspending the administration of the drug, or giving it in smaller doses."

Again, Feb. 15, 1913, p. 502, appeared the following by Eggleston and Hatcher:

> "The appearance of nausea and vomiting following the use of any of the digitalis bodies by whatever channel administered must be looked on in ordinary cases as a sure sign of the toxic effect of the drug on the medulla, and one which calls for an intermission of administration, rather than for the use of such drugs as opium to control the symptoms, as recommended by Hochheim."

All the above statements, without enlargement, I fear might lead some of your readers to neglect digitalis in cases and at times when it is most urgently needed. In cases of cardiac decompensation with venous stagnation in the greater circulatory tree, the liver and entire gastro-intestinal tract are congested and swollen. From congestion of the intestines there results in such cases a compensatory diarrhea, and from congestion of the stomach there likewise result nausea and vomiting.

Given a case with nausea and vomiting from congestion, digitalis is strongly indicated, and it does become necessary to employ measures which will make it possible for the needed medicine to be retained. The nausea and vomiting here are of peripheral origin. Assuming that we have a case of this sort to begin with and that the digitalis is administered even under the skin, into the muscles or into the vein, it requires considerable nicety of judgment to decide when the nausea and vomiting, if they continue, are caused by central overstimulation and when only by the still unreduced peripheral congestion. The rate of the pulse and the apex-beat are here the chief guides.

A still more difficult situation faces the clinician when he is treating a patient who presents various symptoms which indicate that digitalis is urgently required, but who does not have nausea and vomiting when the administration of the drug is begun. Then digitalis is administered, as too often happens, in hopelessly inadequate doses. This treatment may be continued for from twenty-four to thirty-six hours, and then nausea and vomiting appear. Does this indicate digitalis intoxication and that the drug must be stopped? Not at all. It means that the drug is being given in doses too small to have any bracing effect on the circulation and that the patient's condition is growing worse, so that the congestion of the stomach has increased and now nausea and vomiting of peripheral origin are manifesting themselves. In such cases, in spite of the vomiting, the drug, instead of being stopped, must be pushed, and in sufficient dosage; and when they are required, measures to aid in the retention of the drug must be employed. With such treatment the nausea and vomiting soon disappear and the general condition of the patient improves.

These are considerations of the utmost importance from the point of view of the patient and the clinician, and must be made clear. While I have no doubt that they are entirely clear in the mind of the writer of the editorial in question, and to the writers of the article of February 15, the statements quoted, as they appear in print, might possibly lead to a misunderstanding.

M. Schulman, M.D., New York.

The title of the editorial and of the article referred to, "The Emetic Action of the Digitalis Bodies," indicates clearly that the vomiting discussed was that which results from the action of these preparations, and not vomiting due to other causes entirely and wholly independent of digitalis administration, such as those cited by our correspondent. It is evident from a consideration of the passage quoted from the articles of Drs. Eggleston and Hatcher, taken in connection with the context, as it should be, that the authors have reference to the nausea and vomiting due to the action of the digitalis bodies. Elsewhere (p. 501) the same article says:

> "A solid or semisolid fat such as that in digitalis or strophanthus is a very indigestible substance, and it is quite conceivable that the psychic effects of the disagreeable odor of the oil of digitalis might result in nausea in the case of a patient having an extremely irritable stomach; but it is not within the province of the present paper to deal with the psychic effects of odors."

It is clear that this disclaimer of possible adventitious vomiting due to other causes sufficiently relieves the authors of responsibility in those cases in which nausea and vomiting are incidental to the disease and apart from the effects of digitalis. We are glad, however, that Dr. Schulman has called attention to the necessity of carefully distinguishing between the nausea arising from the toxic action of the remedy administered and the nausea which may be due to other conditions. In the first the remedy should, of course, be discontinued; in the second it may be the very agent that will successfully combat this symptom when it arises from extraneous causes.

Correspondence

Bread From Bolted Flour and From Entire Wheat Flour

To the Editor:—I have admired very much the high stand which The Journal has taken relative to pure foods and pure drugs, and its high standard in everything relating to the medical profession. I am writing now to call your attention to the injury which has been done through a recent editorial (Jan. 4, 1913, p. 50) relating to the use of bolted wheat flour for food purposes and giving quasi-approval of it as an article of food. This has been seized on by the flour-millers in the Middle West and they are making use of it to their business advantage. I will admit that if one has the opportunity of reading your editorial all through, the last part rather annuls the first part and leaves the question "astride the fence." I have been trying through writings and lecturing and such influence as I have been able to exert, to establish a public sentiment in favor of whole wheat flour and unpolished rice.

You will admit that the whole trend of recent investigation has resulted in unquestioned demonstration that in the denaturing of flour and in modern methods of manufacture and in polished rice, elements necessary to health, strength, endurance and resistance to disease are removed.

The influence of The Journal is so vast that it can, if it will take up the matter, exert a most healthful influence on the whole community by giving publicity to actual facts relative to this important question. You are undoubtedly familiar with the fact that animals die in the course of thirty or forty days if fed on polished rice or demineralized wheat, while if fed on whole wheat flour or unpolished rice they thrive and reproduce their kind.

What you say relative to the digestibility of starch is unquestionably true; but you leave out the large question of the value of food salts normally found in cereals. Protein and starch, as you well know, and not "all in all" in the food-supply of the animal body, for those alone without the mineral ingredients which go for life, health, strength, longevity and resistance to disease would give human life a very short shrift. It is my earnest desire that in some future article or editorial you give a just and fair exposition of the significance of the mineral ingredients of food to the human family.

Horace Packard, M.D., Boston.

Comment.—The editorial on bread (Jan. 4, 1913, p. 50), presents certain facts, old and new, on the subject under discussion. It is not a propaganda for any kind of bread nor does it aim to establish a sentiment for a special type of food. The differences between various kinds of flour are indicated, correctly we believe; the changes which methods of production and agriculture have brought about are touched on; the relative importance assigned to various constituents of the grain and the possible significance of accessory factors are specifically emphasized (see next to last paragraph). The crux of the discussion will be found in the last paragraph. Let us consider our correspondent's comments.

If the facts reported in our editorial are correct we cannot object to the fact that manufacturers make use of them to their business advantage. Certainly we are quite as willing that the public at large, the manufacturer, or the purveyor should profit by the contributions which appear in our columns, as that our columns should be of assistance to the man of medicine. The truths of science are not the exclusive property of any select group of individuals; all that we can ask is that the contributions be accepted and promulgated in a spirit of honesty—that the truth be not distorted.

We must expect that every well-intentioned reader will at least read the editorials all through and gather their contentions before deploring omissions which have not been made.

No one who has followed our editorial columns closely can have failed to find repeated detailed reference to the features mentioned by our correspondent in connection with the milling of flour and the polishing of rice. The presumable danger of polished rice and demineralized wheat apply to exclusive feeding. The story of beriberi and polished rice, of wheat and scurvy (see our editorials) shows that a small addendum of various foods completely averts these abnormal effects. We spoke, in our editorial on bread, of the rôle of this food as a part of the dietary and in relation to its digestibility. Surely we would not recommend a salt-free dietary of patent flour bread alone as an ideal regimen for man; neither would we recommend wheat alone, or rice alone, or beans alone, or any other one-sided dietary. Has not our correspondent gone out of his way to inject into the editorial under discussion implications in no wise introduced in the contribution itself?

We quite agree that there is a "large question" at issue in respect to the real "value of food salts normally found in cereals" or other dietary articles. We are not prepared to admit that the time is ripe for attempting to create a public sentiment about matters which need a great deal of further investigation by scientific methods before any authoritative pronouncements can be made. Some of the therapeutic claims for bran, bran breads, and allied products which are now liberally advertised are quite as much in need of revision, we fancy, as are other outcomes of speculative dietetics. These topics deserve investigation as thoroughly as do the conflicting claims of drugs.

Physical Therapy and Psychic Influence

To the Editor:—There is need of commentary on certain remarks reported in the discussion on Dr. Philip Marvel's paper on physical therapeutics, The Journal, Sept. 7, 1912, p. 757.

It is there said: "Remedial agents other than drugs . . . are of value from the standpoint of psychotherapeutics, the influence of mind over disease. They enable us to impress on the patient the fact that we have a knowledge of many methods of treating disease. Again, these various treatments interest the patient. This meets competition by quacks, or those who are not considered quacks but irregular practitioners, who know little medicine but understand human nature. When you order for your patient medicine in a glass of water and tell him to take a teaspoonful every few minutes, the patient is then made to do something for himself. A regular practitioner too often orders for his patient a certain drug and tells him to take it three times a day, which is all that is required by science, but something has been left out which would be for his betterment, namely, keeping him busy."

Strong protest against these points of view is evidently needed, for what they advocate is not psychotherapy at all in the scientific sense. It is the crudest suggestion, and it is false in leading the patient to believe that the cause of his cure is the physical agent itself which was employed. This does harm in blinding him further to the real nature of his disease and treatment whether mental, emotional or somatic. Also it fails to do the good of preventing similar attacks in future. In this respect it is even inferior to the much-berated error which teaches the ignoring of all bodily sensations whatever; for this often does abrogate suggested maladies. In short, it differs not a whit except by inferior effectiveness from the veriest charlatanry. This argument for any therapeutic measures is frequent in the mouths of loose thinkers; but its advocacy, if serious, by a teacher in a medical school, is cause for astonishment, for real psychotherapy is at least five years old in America.

In the art of psychotherapy there is no need to foment interest: that, as every physician knows, is already so active in many neurotics as to be a byword. Were the patient not preoccupied by his symptoms, it would indeed be strange; he is merely trying to understand himself. It is the psychotherapist's task to show him how. This cannot be done by apparatus, or even by sympathy or tact, but only by comprehension and enlightenment.

To tell a patient with basophobia that he should stand is to tell him what he knows; to tell him that he can stand is to tell him what he knows to be wrong even when an electric battery "persuades" him into it; but to tell him why he cannot stand is to give him the compass whereby he will be enabled to stand again, sometimes, it is true, only after proper reeducative discipline. Similarly, to massage, faradize and rest a hand which cannot write from scrivener's palsy, "hoping the psychic effect will be good even if the affection is not peripheral," is to court failure (see *Jour. f. Neurol. u. Psychol.*, Leipsic) and drive patients to the cults who do this kind of "psychotherapy" incomparably more effectively. The real psychotherapist ascertains the psychologic mechanism of the dyskinesia, and teaches the patient, through understanding this, how to overcome the disability by properly devised and graded exercises in control.

When real psychotherapy is being performed, the impression on the patient can be left to take care of itself, as can the much-talked-of personality of the doctor. Who looks at his surgeon or cares about the impression he makes if his reputation for skill is great? Psychotherapy is mental surgery; it is not the impression but the knowledge and skill which count.

These statements I can vouch for in instances in which the crude suggestions of apparatus or other placebo, assurance or assumed sympathy had previously failed. Their theoretical soundness is a more complex thesis which interested readers will find outlined in the *Journal of Abnormal Psychology*.

Need I add that physical measures need no support from suggestions? They are effective in themselves when properly applied; each form has its own indications in modifying bodily processes apart altogether from the psyche of the patient; and I agree with Dr. Marvel regarding the pity of their too general neglect.

Tom A. Williams, M.B., C.M., Washington, D. C.

The Stewart and Ryfkogel Methods in the Surgery of Epithelioma of the Lip

To the Editor:—The article on "Operation for Epithelioma of the Lower Lip," by Dr. Ryfkogel (The Journal, Feb. 15, 1913, p. 507), condemns my operation for cancer of the lower lip on grounds which I think do not exist.

After admitting that my operation fulfils the conditions necessary in an ideal operation, Dr. Ryfkogel goes on to say that the "resulting infection and sloughing is frequently extensive and severe, so that death has not infrequently occurred." As far as I am able to learn this is not true, and Dr. Ryfkogel is either misinformed or has had some very unfortunate experiences. I have personal knowledge of about four hundred operations of this type by several operators, and in not one has either sloughing or death occurred, or severe infection.

In the earlier days of the operation slight infection from the mouth through Wharton's duct occurred quite regularly, but lasted only a few days and did no harm when drainage had been provided. Lately this has been avoided by using twenty-day chromic gut to ligate Wharton's duct. In my experience patients sit up the second day, part of the stitches are removed the third day and the balance the fifth, and they can be discharged on the eighth to tenth day.

Dr. Ryfkogel in his article makes no statement as to the removal of the lymph-nodes, and it must be inferred that this is very incomplete, as he excludes the submental region and by preserving the facial arteries prevents the removal of the submaxillary salivary gland.

Now I have frequently found the submental nodes infected by carcinoma of the lip, and the removal of the submaxillary salivary gland has been proved necessary on account of the lymph-node which regularly is in very close relation to or imbedded in this gland, and which is one of the earliest nodes to become infected. Any operation that fails to remove all these lymph-nodes is incomplete and must have a large recurrence rate.

I cannot understand why sloughing should ever occur in this operation, as the facial flaps are abundantly nourished even when both facial arteries are ligated. Of course, bungling work can cause both sepsis and sloughing, but there is no excuse for this and it cannot rightly be charged to the operation.

J. Clark Stewart, M.D., Minneapolis.

A proof of the above was sent to Dr. Ryfkogel, who replies:

To the Editor:—I fear Dr. Stewart has not read my article very carefully, for I state that two weeks after the removal of the lip, I do a radical dissection of the cervical lymph-nodes including the submental and submaxillary. At the second operation the facial arteries are cut; but as the flaps are now healed in place their preservation is no longer necessary. To save space I referred to a previous article in which I advocated a very thorough neck dissection in these cases, and as I do not like to have such an extensive wound in continuity with the mouth, I do a two-step operation. I also remove the lip wide of the growth, and my operation permits this by allowing full use, without tension, of the loose skin of the neck. In Dr. Stewart's original article he states that there is sometimes "an offensive suppuration" following his operation; such suppuration is, in my experience, often accompanied by sloughing in the wound. Dr. Stewart misunderstood in thinking that I stated that sloughing of the flap occurs in his operation, for I have not known this to happen. It is certainly remarkable, however, that 400 consecutive neck dissections that have been at all extensive and extend into the mouth should all heal without accident, such as shock or sepsis, even when the mouth has been excluded by careful suturing. A death observed by me occurred in a case of a man of 65 years with an extensive lip cancer. The neck dissection and lip plastic were quickly done after Stewart's method. Wharton's duct was ligated, and drainage thoroughly established. The offensive suppuration mentioned by Dr. Stewart quickly occurred, and notwithstanding free opening of the wound, death took place. If a surgeon believes that a given case is suitable for a one-step operation, Dr. Stewart's should be adopted, because mine can be performed only in two steps. If, however, he desires to do the operation in two stages and have ample tissue for a new lip without tension, I believe that mine will be the most satisfactory.

H. A. L. RYFKOGEL, M.D., San Francisco.

Proposed Addition to the Hippocratic Oath

To the Editor:—As the time for the graduation of medical students approaches it has occurred to me that an acceptable addition to the Hippocratic oath might be made which cannot fail to meet the approval of medical men.

It is generally admitted that the hardest knocks which physicians have to bear come from other medical men; and while nothing libelous need be said, much can be conveyed. The whole ground has been so beautifully covered in such classic phrases that one can see that only good would result from reading the following lines to those about to have to deal with other physicians. The following relates particularly to all instances in which physicians are asked their opinions of their fellow practitioners:

> That you, at such times . . . never shall
> With arms encumber'd thus, or this head-shake,
> Or by pronouncing of some doubtful phrase,
> As, *Well, well, we know;* or, *We could, an if we would;*
> Or, *If we list to speak;* or, *There be, an if there might;*
> Of such ambiguous giving out, to note
> That you know aught of [him]: this not to do,
> So grace and mercy at your most need help you,
> Swear. —Hamlet, i, 5.

Surely the necessity for the care of the reputation of one's fellow practitioners could not be more forcibly impressed.

L. MILLER KAHN, M.D., New York.

The Lister Memorial

To the Editor:—The movement for the establishment of memorials to the late Lord Lister in Great Britain is moving on apace. The memorials consist of a statue in Glasgow and the preservation of the Lister ward in the old Royal Infirmary, which is being rebuilt; but the proposition is to retain Lister's ward in its original state and install there a museum which shall contain everything that can be gathered relating to the early work of Lord Lister. In London there will be a statue, a tablet in Westminster Abbey and also an international fund for the purpose of awarding premiums to specially eminent surgical work in any country in the world.

I am glad to say that as a result of my letter in your issue of January 25, p. 308, I have already received nearly $700 in pledges and in cash. The checks have ranged from $5 to $100. When the matter is brought to the attention of the various national societies, I hope to see this sum largely increased. For the honor of the profession in this country and as an expression of appreciation of the wonderful work that Lister did for our profession and for humanity, it ought to be and I hope it will be multiplied several times over.

W. W. KEEN, M.D., Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FRENKEL TREATMENT IN LOCOMOTOR ATAXIA

To the Editor:—Please tell me what you can about the merits of the Frenkel treatment for locomotor ataxia.

R. M. WILEY, M.D., Salem, Va.

ANSWER.—In 1897 Frenkel (the name is frequently misspelled Frankel and Fraenkel) gave to the world a rather complicated system of exercises for tabetics, in order to relieve one of the troublesome symptoms, the ataxia. Frenkel's method, now considerably simplified, consists essentially in the systematic performance of simple movements with purposeful intent and attention, calculated to overcome incoordination by so reeducating the cortical centers that their work may subsequently be performed without attention and conscious volition. The exercises may properly be considered a series of cerebral gymnastics—not gymnastics by force—which any physician can devise to suit his individual case. The employment of this method is limited to the relief of one of the numerous symptoms of tabes, the incoordination, but has no appreciable effect on either the disease as a whole or on any of its other symptoms. In those cases, then, in which the symptom ataxia is present and in which the employment of Frenkel's exercises is not contraindicated, it constitutes a valuable addition to the symptomatic treatment of this disease.

RECIPROCAL RELATIONS OF MINNESOTA

To the Editor:—A physician graduated from a reputable medical college and obtained a license in 1898 to practice medicine in the state of Minnesota. In what other states in the Union can he practice medicine without passing any examination? E. L.

ANSWER.—If his credentials are otherwise satisfactory, he is eligible for a license through reciprocity in Arkansas, Colorado, Delaware, District of Columbia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, North Dakota, Ohio, Tennessee, Texas, Utah, Vermont, Virginia, Wisconsin and Wyoming, since it is reported that Minnesota has reciprocal relations with those states.

ANIMAL INOCULATIONS

To the Editor:—1. What doubtful diseases will guinea-pig inoculations aid in diagnosing?

2. Give technic of such inoculations as can be carried out by the general practitioner.

3. Mention sites for inoculations.

4. State the time period for development of infection in a given disease suspected.

5. Specify infective mediums (secretion or excretion) that best lend themselves for inoculation. J. E. K.

ANSWER.—1. Animal inoculations, especially in guinea-pigs, are used to determine the pathogenic character of micro-organisms obtained by the culture of various secretions, and especially for the demonstration of the tuberculous character of certain lesions in which tubercle bacilli are not readily demonstrated by other laboratory methods.

2. Guinea-pigs and rabbits are usually inoculated in the thigh or abdomen; rabbits may be inoculated intravenously through the large dorsal vein of the ear. The material which is believed to contain germs of tuberculosis may be inserted under the skin or rubbed up with a sterile liquid, such as a salt solution, and injected in the peritoneal cavity. A Koch syringe

or an ordinary hypodermic syringe may be used for such purposes. Before use, the syringe with the needle should be boiled for ten minutes to sterilize it. The injection should be made with strict aseptic precautions.

3. As said above, a hypodermic injection in the thigh or abdomen may be made, or material may be implanted under the skin or in the abdominal cavity. Frequently also the eye of the rabbit is utilized for the injection of supposed tuberculous material, because the progress of the lesion can be readily observed in this situation.

4. The period for development of the disease will vary with the material under examination. Ordinary septic infections show their results quickly, sometimes within twenty-four hours. On the other hand, tuberculosis may not be manifest for a number of weeks.

5. As a rule, a culture of some of the microorganisms present in the diseased part, or in the secretions from it, should be used. When a diagnosis of a doubtful tuberculosis lesion is desired, a part of the affected tissue, such as an excised gland, must be rubbed up and injected directly.

LITERATURE ON INTRATHORACIC SURGERY

To the Editor:—Please refer me to some late papers on the present status of intrathoracic surgery. W. F. R.

ANSWER.—The following articles on intrathoracic surgery have been published within the past two or three years in THE JOURNAL and elsewhere:

Bancroft, F. W.: Lung Surgery, *Colorado Med.*, May, 1910.
Elsberg, C. A.: Intratracheal Insufflation (Meltzer); Its Value in Thoracic Surgery, *Ann. Surg.*, July, 1910.
Lilienthal, H.: First Case of Thoracotomy Under Anesthesia by Intratracheal Insufflation, *Ann. Surg.*, July, 1910.
Quinby, W. C.: Surgery of the Throat, *Surg., Gynec. and Obst.*, November, 1910.
Babcock, W. W.: A Pneumatic Shield for Operation on the Lung, THE JOURNAL, July 2, 1910, p. 11.
Meyer, W.: Impermeable Cardiospasm Successfully Treated by Thoracotomy and Esophagoplication, THE JOURNAL, May 20, 1911, p. 1437.
Senour, W. E.: Present Status of Surgery of the Thoracic Cavity, Experimental and Applicable, Kentucky Med. Jour., January, 1911.
Upcott, H.: Recent Work in Thoracic Surgery, *Practitioner*, London, June, 1911.
Munford, J. G.: Thoracic Surgery, *Boston Med. and Surg. Jour.*, Sept. 14, 1911.
Elsberg, C. A.: Experiences in Thoracic Surgery Under Anesthesia by the Intratracheal Insufflation of Air and Ether, *Ann. Surg.*, December, 1911.
Bunnell, S.: The Use of Nitrous Oxid and Oxygen to Maintain Anesthesia and Positive Pressure for Thoracic Surgery, THE JOURNAL, March 23, 1912, p. 835.
Flint, J. M.: Physiologic Basis of Thoracic Surgery, THE JOURNAL, Sept. 7, 1912, p. 760.
Robinson, S.: Apparatus for Thoracic Surgery Under Intratracheal Insufflation or Positive Pressure, *Surg., Gynec. and Obst.*, May, 1912.
Boothby, W. M.: Intrathoracic Surgery: Division and Circular Suture of Thoracic Aorta, *Ann. Surg.*, September, 1912.
Bryan, W. A.: Recent Advances in Thoracic Surgery, *Jour. Tennessee State Med. Assn.*, November, 1912.

STATE ASSOCIATIONS DO NOT INSURE AGAINST BUT DEFEND MALPRACTICE SUITS

To the Editor:—Will you oblige me by publishing in your columns a list of the state medical societies which have any system of insurance against malpractice suits for their members?

T. H. ROGERS, Providence, R. I.

ANSWER.—According to the best information available, no state society provides such insurance but the associations in the following states defend their members or assist them in their defense when subjected to suits for malpractice: California, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Pennsylvania, Vermont, West Virginia and Wisconsin.

PROCHOWNICK DIET IN PREGNANCY

To the Editor:—Please give a diet for a pregnant woman, so as to influence size of child. The patient has always had very large children and hard labors, so I want to aid if possible in having a small child.

JOHN F. MILLER, M.D., Andover, S. D.

ANSWER.—Prochownick (*Therap. Monatsh.*, 1901) advised the following, begun ten to twelve weeks before the expected birth:

Breakfast: One small cup of coffee, 3 ounces (100 c.c.); zwieback or bread, 1 ounce (25 gm.); a little butter.

Dinner: Any kind of meat, eggs or fish, with little sauce; green vegetables prepared with fat (as cream); salad; cheese.

Supper: Same as dinner, with from 1 to 1½ ounces (from 40 to 50 gm.) bread, and as much butter as desired.

Absolutely forbidden.—Soups, potatoes, desserts, sugar, beer, and overdrinking of water.

If the patient is accustomed to the use of alcohol, a small bottle of red or white wine is allowed, from 9 to 12 ounces (300 to 400 c.c.), or an equal quantity of water may be taken during the day. This diet appears to have stood the test without modification. Recent authors on obstetrics advise it in cases with contracted pelvis. The diet was described more fully in THE JOURNAL, Oct. 28, 1911, p. 1474.

REFERENCES TO THE LIFE AND WORK OF LISTER

To the Editor:—What can I find of the early life of Lord Lister, the details of his discovery of antiseptic surgery, and all other things pertaining to him? I should like to get these data as I wish to write an address using him as a subject.

R. E. FORT, M.D., Nashville, Tenn.

ANSWER.—Some good references on Lister are as follows:

Lister Jubilee Number, *Brit. Med. Jour.*, 1902, ii, p. 1817.
Symposium of Papers on the Late Lord Lister, read before the Academy of Medicine, Toronto; seventy pages; reprinted from the *Canadian Jour. Med. and Surg.*, May, 1912.
Marcy, H. O.: Personal Reminiscences of Lord Lister, *Am. Jour. Surg.*, March, 1912.
Sendon, A. A.: Lister, His Life and Work, Australasian *Med. Gaz.*, March 16, 1912.

TEST FOR UROCHROMOGEN IN URINE

M. L. Stevenson, M.D., Covington, La.: See THE JOURNAL, March 1, 1913, p. 689.

INFLAMMATION OF THE GALL-BLADDER

To the Editor:—In your answer (March 8, 1913, p. 770) to the inquiry of M. V. S., relative to a gall-bladder case in which he had operated, which caused pain every time the sinus closed, you say, "the trouble lies in the fact that the inflammation of the gall-bladder has not subsided entirely."

In the main I agree with the statement, but I do not think that any further drainage is indicated or will alleviate matters. There is likely some obstruction of the cystic duct, and no amount of external drainage will overcome that.

Cystic duct obstruction is evidenced not only by the refusal of the sinus to stay closed without causing pain, but also by the fact that no bile escapes; nothing but mucus. Now a cystic duct that will not admit bile to the gall-bladder will not allow the passage of mucus and inflammatory products in the normal way, through the common duct to the duodenum.

When the sinus closes an infected retention cyst is produced, in effect.

Inasmuch as this state of affairs has been present for about a year, the most logical treatment, it seems to me, would be the removal of the mucous membrane of the gall-bladder, or if this is not feasible a cholecystectomy.

WILLIAM E. GROUND, M.D., Superior, Wis.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

SUMMARY OF PUBLIC-HEALTH LEGISLATION

A tabulation of reports received from the forty-one legislatures which have met since January 1 shows that up to date 426 bills on health topics have been introduced. This includes 34 amending existing board of health laws; 12 on vital statistics; 94 on the regulation of the practice of medicine, amendments to existing practice acts or bills providing boards for some special sect; 8 on registration of nurses; 6 each on the regulation of dentistry and pharmacy; 37 on the regulation of foods and drugs, habit-forming drugs, etc.; 9 bills on milk and dairy regulation; 55 on the control of disease; 21 on the sanitary construction of public buildings, etc.; 6 on occupational diseases; 6 on quarantine provisions; 20 on the care of the insane, feeble-minded, epileptic, etc.; 31 on marriage, eugenics, sterilization of criminals, etc.; 10 on vaccination, serums, etc.; 10 on water-supply and sewage-disposal; 3 on medical expert testimony; 14 on health supervision of schools; 3 antivivisection bills and 26 bills on miscellaneous subjects.

The large number of bills on different phases of the regulation of the practice of medicine shows the amount of agitation as well as the unsettled condition of public opinion on this subject. It is also significant that bills on this subject have been introduced in more of the legislatures in session than on any other one question, thirty-one of the forty-one legislatures in session having some bills on some aspect of this question now before them.

The next most important subject, numerically speaking, is the regulation of diseases, there being fifty-five bills on contagious diseases and their control, and on the prevention of disease. The fact that thirty-five bills on eugenics, marriage and sterilization have been introduced, shows the large amount of public interest in this question. Most of these bills have originated with laymen rather than with physicians. The thirty-four bills amending the board of health laws are mostly amendments strengthening the law. The bill in Arkansas, which has now become a law, creates a new state board of health. The fact that there are thirty-seven bills on food and drugs and habit-forming drugs is sufficient evidence of the public attitude on this subject.

The number of bills on public health subjects introduced in legislatures this year probably exceeds that of any preceding year. The thoughtful observer must be impressed with the waste of energy and the small results produced by our present lack of system in legislative matters. Bills are drafted hastily without adequate information or careful inquiry. They are introduced without sufficient consideration of phraseology or of possibility of enforcement or of conformity with existing laws. Bills are too often considered, both in committees and on the floor of the legislature, from a partisan, sectarian and personal point of view rather than from the point of view of the public good. Even when a carefully drawn and effective bill is introduced, it is too often emasculated and made inoperative and worthless by compromises which are necessary in order to secure its passage. These faults are characteristic of all American legislation. The medical profession, which is supposedly scientific by instinct and training, and which is supposedly working for the public good, ought to set a better example to the lawmakers than it has done in the past twenty-five years.

LEGISLATIVE NOTES

ARKANSAS

Following the passage of the bill creating a state board of health, referred to in The Journal last week, a bill was introduced appropriating the necessary funds for its operation. The day before the legislature adjourned the house tabled the appropriation bill. A few hours after this action was taken the governor began to receive telegrams from one of the northern counties of the state, saying that an epidemic of cerebrospinal meningitis had suddenly broken out, and asking the governor to send help at once. The governor immediately turned these telegrams over to the members of the legislature. By a peculiar coincidence, the member of the house representing the county in which the epidemic had broken out had been one of the most active opponents of the appropriation bill. On learning the situation in his county he at once moved to reconsider the motion to table, which was carried by an overwhelming vote. The next morning the appropriation bill passed without opposition.

The bill appropriating $36,000 for the medical department of the state university also became a law. The optometry bill and the chiropractic bill failed to pass.

COLORADO

The tuberculosis bill, making this disease reportable and requiring disinfection of houses in which tuberculosis has occurred, has passed both senate and house and is now before the governor. The sterilization bill has failed to pass the house. The chiropractic and osteopathic bills have passed the senate.

NORTH CAROLINA

The model bill on vital statistics has become a law. It car- with it an appropriation for $10,000. The general appropriation for the State Board of Health has been increased $8,500, making the total health appropriations amount to $46,000.

OREGON

The following bills on public health subjects have passed both houses, and have been signed by the governor: H. B. 69, providing for the sterilization of feeble-minded, imbeciles, insane and habitual criminals; H. B. 92, providing for the inspection of all hospitals and sanatoriums both public and private by the state board of health; H. B. 279, requiring a medical certificate of freedom from diseases from men desiring marriage license; S. B. 21, placing all charitable institutions, orphanages, maternity homes, etc., under the jurisdiction of the State Board of Health, and providing $10 per capita from the state funds for all orphans in these institutions; S. B. 298, making it a misdemeanor to deface or destroy any notice posted by the State Board of Health; H. B. 125, providing $5,000 annually for the study of bubonic plague in China, the work to be done under the auspices of Harvard University; H. B. 191, appropriating $10,000 a year to be used in promoting knowledge on social hygiene. H. B. 424, amending the medical practice act, and S. B. 200, prohibiting quack advertising, have already been commented on.

UTAH

S. B. 107, an optometry bill, has been killed in the house; H. B. 42, a sterilization bill, was killed on the floor of the house; S. B. 156, establishing a sanitary commission, was killed in the senate. The legislature adjourned Saturday, March 15.

TEXAS

The optometry bill has been killed by the senate, 19 to 6.

PROFESSIONAL MEN AS CANDIDATES FOR THE SUCKER LIST

How do these gold brick pedlers know that you are one of that species, a representative of which is born every minute? This pointed question is asked by John Oskison, financial editor of Collier's *Weekly*, writing in the Chicago *Tribune*. He answers his question thus:

No sucker fisherman could afford to go on the theory that all are possible suckers and send his bait around indiscriminately. It would cost too much. So to qualify as a real, grown up sucker you must get on a sucker-list.

If you are a teacher, a preacher or a doctor you are pretty sure to be tested by some one of the fishermen. After you bite once you are passed along—you become an asset to the whole tribe. Your name is worth anywhere from 10 cents to $10, depending on how readily you bite and the amount of money you have dropped into the pockets of the promoters who have had their chance at you.

The teacher, the doctor and the preacher are ideal suckers, says Mr. Oskison; their earnings are usually small, their families large, and their sense of duty highly developed. Perhaps you would conclude, therefore, that they ought to be the very ones to keep away from the bait. No; they see the cost of everything which represents a decent existence rising higher and higher, while their income mounts with exceeding slowness or not at all. They will save something—at any cost of self-deprivation. And when that saving amounts to a hundred dollars or more they become susceptible.

Many are so ignorant of business that when they read the sunrise-tinted literature of promoters they actually believe they have a fair chance to obtain 100 per cent. in a short time on their investment. Government figures show that last year 525,000 persons lost $120,000,000 to persons indicted for fraudulent use of the mails.

Mr. Oskison concluded that the only sure way to avoid being caught as a sucker is to [illegible]k close to the [illegible] of the bank or banker whose [illegible]er the s[illegible] of a state or national gove[illegible]

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.
CALIFORNIA: San Francisco, April 1. Sec., Dr. Charles B. Pinkham, 929 Butler Building.
COLORADO: 612 Empire Building, Denver, April 1. Sec., Dr. David A. Strickler.
IDAHO: Boise, April 1. Sec., Dr. O. J. Allen, Bellevue.
MINNESOTA: State University, Minneapolis, April 1-4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.
MONTANA: The Capitol, Helena, April 1. Sec., Dr. W. C. Riddell.
NEW MEXICO: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.
OKLAHOMA: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.
RHODE ISLAND: State House, Providence, April 3. Sec., Dr. Gardner T. Swarts.
WEST VIRGINIA: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

Arizona January Report

Dr. John Wix Thomas, secretary of the State Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, Jan. 6-7, 1913. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 7, of whom 3 passed and 4 failed. For two candidates who failed the college and year of graduation was not given. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1911)	87.5
Drake University	(1908)	81.7
Washington University, St. Louis	(1912)	82.4

FAILED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1907)	69.9
Tennessee Medical College	(1907)	48.4

Colorado January Report

Dr. David A. Strickler, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, Jan. 7, 1913. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 9, of whom 6 passed and 3 failed including 1 osteopath. Twenty-six candidates were licensed on presentation of satisfactory credentials including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver Homeopathic College	(1908)	76.3
University of Colorado	(1912)	82.9, 86.4, 89.1
University of Michigan, Dept. of Med. and Surg.	(1909)	81.2
Kansas City Hahnemann-Medical College	(1910)	81.5

FAILED

College	Year Grad.	Per Cent.
Louisville Medical College	(1894)	62.9
University of Nebraska	(1902)	66.7

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
Rush Medical College........(1892), Nebraska;	(1903)	Illinois
Medical College of Evansville	(1881)	Indiana
University of Louisville, ...(1882) Kentucky;	(1893)	Kentucky
Kentucky University	(1904)	Louisiana
Tulane University of Louisiana	(1911)	Alabama
Baltimore Medical College	(1898)	Penna.
University of Maryland	(1908)	Minnesota
University Medical College, Kansas City (1898)	(1907)	Missouri
Lincoln Medical College	(1904)	Nebraska
Kansas City Medical College	(1905)	Kansas
Bellevue Hospital Medical College	(1886)	Missouri
Ohio Medical University	(1904)	Ohio
Ohio-Miami Medical College	(1911)	Ohio
Miami Medical College	(1880)	Illinois
Cleveland College of Physicians and Surgeons	(1899)	Ohio
Jefferson Medical College	(1911)	Iowa
University of Tennessee	(1894)	Tennessee
University of Nashville	(1900)	Tennessee
University of Vermont	(1911)	Vermont
Medical College of Virginia	(1908)	Virginia
Milwaukee Medical College	(1901)	Nebraska
University of Helsingfors, Finland	(1907)	Mass.
Royal University of Palermo, Italy	(1894)	Connecticut

Minnesota January Report

Dr. Thomas S. McDavitt, secretary of the Minnesota State Board of Medical Examiners, reports the written and oral examination held at Minneapolis, Jan. 7-10, 1913. The number of subjects examined in was 18; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 6, of whom 5 passed and 1 failed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1912)	85
Harvard Medical School	(1910)	87
University of Minnesota, College of Med. and Surg.	(1912)	85, 89
Jefferson Medical College	(1909)	88

FAILED

College	Year Grad.	Per Cent.
Milwaukee Medical College	(1909)	65

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College (1908) Wisconsin; (1911)	(1912)	Illinois
Northwestern University Medical School (1904)	(1911)	Illinois; (1912) Wisconsin.
College of Physicians and Surgeons, Chicago	(1897)	Wisconsin
Chicago College of Medicine and Surgery	(1907)	Iowa
Hamline University	(1909)	N. Dakota
St. Louis University	(1906)	Illinois
University of Pennsylvania	(1910)	Maryland
Milwaukee Medical College	(1912)	Wisconsin

North Dakota January Report

Dr. G. M. Williamson, secretary of the North Dakota State Board of Medical Examiners, reports the written and oral examination held at Grand Forks, Jan. 7-10, 1913. The number of subjects examined in was 13; total number of questions asked, 116; percentage required to pass, 75. The total number of candidates examined was 13, of whom 9 passed and 4 failed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1911)	81.5
University of Minnesota, College of Med. and Surg.	(1912)	82, 84.7
Hamline University	(1907)	79
University of Pennsylvania	(1910)	90
Jefferson Medical College........(1910) 82.5;	(1911)	81.6
University of Nashville	(1901)	80.5
University of Toronto, Ontario	(1910)	78

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1911)	70
Keokuk Medical College, College of Phys. and Surg.	(1903)	69
Laval University, Montreal, Canada...(1911) 71;	(1912)	66.2

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1907)	Illinois
College of Physicians and Surgeons, Chicago	(1908)	Illinois
Bennett Medical College	(1910)	Minnesota
University of Minnesota, College of Medicine and Surgery (1908) (1909)	(1910)	Minnesota

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Disinfection in Measles.—The New York City Department of Health does not remove goods for sterilization in carrying out disinfection after measles. It is said that experience has shown that there is little likelihood of any infection from the sick-room when the person suffering from measles has completely convalesced; the main danger is from fresh discharges. This change in the method of disinfection is appreciated by the public, and the absence of secondary cases justifies it. The abandonment of terminal fumigation after recovery from measles or diphtheria has diminished the work of the disinfection corps by 20 per cent. After the recovery of the patient at home the woodwork of the room in which the patient was isolated is thoroughly scrubbed with hot soda solution (½ pound to 3 gallons) and the room is thoroughly aired for at least twenty-four hours before being occupied. If the patient is removed from the sick-room during the height of the illness, or dies at this period, the room and its contents are disinfected and all goods exposed to the infection are removed to the disinfection station and disinfected by steam.—January *Bulletin* New York City Department of Health.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17-20

Alabama State Medical Association, Mobile, April 15-18.
American Urological Association, Boston, April 15-17.
California State Medical Society, Oakland, April 15-17.
Georgia State Medical Association, Savannah, April 16-18.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
New York State Medical Society, Rochester, April 29-May 1.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Twenty-Third Annual Meeting held in Chicago, Feb. 26, 1913

(Concluded from page 859)

Some Problems in Medical Education

Dr. Egbert LeFevre, New York: During all the years of its existence, the policy of the association has been to consider *the question of medical education from the point of view* of those who were actively engaged in medical education and who had knowledge of all its phases, technical, pedagogic and *geographic. At present there is great need for such a body.* Two general educational remedies have been advocated by organizations concerned with medical education: (1) that one *or two years of college work, which should include one year of* chemistry, physiology and biology, be added to the preliminary training; (2) that a hospital or a clinical year be added, *making the medical course one of six years.* The questions for this association to decide are not merely academic, but questions of administrative standards.

The first question that arises is how the student is to obtain the year's work in the sciences demanded by the American Medical Association in the action taken by its House of Delegates in 1912. In states with state colleges or universities the question has been answered. The high-school and university courses are so correlated that with a minimum amount of disturbance the students pass from one to the other. But in the greater part of the country no such coordination exists. In some states students are admitted only on examination in addition to their credits; others demand special preparation in subjects not included in the high-school course. Universities should feel it their duty to correlate their entrance requirements with the high-school courses of their locality. Universities do not want students preparing for medical-school requirements, because they object to acting as a preparatory school for technical or professional education. This raises the question of equivalents and the dangers of evasion. It has been suggested that courses in chemistry, physiology and biology be given in technical schools, which would not admit students until after the completion of a high-school course, and it has been asserted that such a course would be more definite than that given in many literary colleges, because it would be under the supervision of the educational department of the state.

What is the object of this added year of preparation? In general terms, the answer is "power to grasp professional subjects." This question has given rise to much debate, and incident *to it, it has been stated that one year of college work is* not sufficient time in which to teach these subjects as pure sciences. Others hold that it is sufficient time in which to gain a familiarity with the principles of these subjects. They should be taught in an intensive manner so as to arouse interest, to make the student feel that they have a bearing on his future work, and to widen his mental horizon and awaken his reasoning faculties. Unfortunately, the generalities of the college course do not often give this direction. The high-school graduate often gets more out of the course than the man with the A.B. degree. Medical colleges are in duty bound to demand of colleges that these courses be standardized—that they be made worth the student's time.

As to whether or not this added year will relieve the medical curriculum, the only answer to be made is that the ultimate *aim of medical education is to make good practitioners of* medicine. The medical school cannot turn out a "finished" product, but it can train its students so that they will be in a *position subsequently to remedy their own deficiencies.* The medical curriculum has reached the limit of its capacity. It has been formed almost altogether by accretion, something being *put in, little or nothing taken out.* If students come to the medical colleges with better preparations in the sciences there is a tendency to add more detail, to extend the laboratory courses, to teach subjects as pure sciences, to lose sight of the ability of the student, to go beyond the needs of the future practitioner and to plan the course as though they were to be chemists, pathologists or research workers. Opportunity should be given to those who wish to pursue a subject beyond the degree given in the course, but who cannot because of the rigid curriculum presented.

In our attempt to make the student scientific, we are defeating our object by insisting on this great detail before he can *understand the principles.* The reason students do not have a better grasp of scientific subjects is that medical education has become less homogeneous. The science years are becoming *more and more divorced from the clinical.* This tendency should be corrected. I believe that teachers of scientific branches are largely to blame for this. It is the result of evolution. They *should be in thorough sympathy* with the future professional work of the student, and I am of the opinion that teachers in medical schools should have a medical course as part of their *training.* Medical progress is being retarded by lack of coordination in the science and clinical departments. Instead of extending the course in physiologic science, a correlated clinical *laboratory course should be introduced in the second year.* This would be the best introduction possible for the clinical subjects. The establishment of state examining boards has raised the general standards of the profession and is responsible for a more uniform curriculum, but it has had a decided influence on the overloading of the curriculum; it has encouraged quiz-book methods and put a premium on ability to answer questions. State-board examiners should recognize the changes that have occurred in medical education. Practical examinations should be given. The states should consider it their duty to provide the necessary funds.

Divided Schools

Dr. Charles R. Bardeen, Madison, Wis.: Unless a medical school is an integral part of a university which is in a position to give financial support to a school, the equipment facilities are, with a few exceptions, inadequate. The fundamental need of affiliation with large public hospitals, dispensaries and public health work is likewise clear. The medical course falls into two subdivisions: (1) that of the basal medical sciences and (2) that of the clinical teaching. The teaching of the basal sciences may usually be organized most readily at the university center. The clinical teaching can be well established there only when large hospitals and dispensaries adjoin, as in Michigan, Minnesota or Pennsylvania. When the clinical teaching cannot thus be given, but can be *given in the same city* or within a few miles of the university center, the basal sciences are, as a rule, given in conjunction with the clinical teaching and the medical course, as at Northwestern, Harvard, *Columbia* and Western Reserve. At Indiana, Cornell and Texas the medical school is some distance from the university center, but *work in the basal medical sciences is given in both places. The* need of developing these sciences at the university center, especially in state universities, in connection with public health work, has led to the organization of "half schools," and divided schools. In a university where comparative vertebrate anatomy, histology, neurology, physiology, pharmacology, chemistry, bacteriology and hygiene are cultivated as important aspects of biologic science, the addition of human anatomy, pathology and physiologic chemistry so as to cover the first two years of the medical course is a simple and natural [illegible]ep. If, however, these subjects are to be taught s [illegible] t of the [illegible] ular course, it is important [illegible] le. entrusted to men who have ha interested. It is also of great value to have at hand at least a small hospital in which interest in clinical medicine may be maintained and to have available some clinical material to demonstrate to students in the second year of the medical course.

In the divided school, in the usual sense, the clinical branches are taught in a city miles away from the seat of the university. As a rule, the division in work takes place between the second and third years of the course; but it may take place in the middle of the second year, as at Leland Stanford, or at the end of the first year, which is the aim at present in Indiana. There seems to be no fundamental reason why the work of a medical school should not be done in two or more places, provided the organization of the school is effectively centralized in a strong university. A fundamental thing is university support and control. If the remote medical school gives the complete work of the four years, some of the work of the first two years will have to be repeated at the university center; on the other hand, some non-medical science work may have to be given in the medical school. If the separation takes place between the second and third years, some clinical work should be given in the university center and the clinical division should cultivate some of the basal sciences, especially physiology and pathology. The line of separation need not, however, be between the second and third years. The main thing is to have university control and support. The question is not merely so much one of the division of the medical school as of the existence of the medical school. The problem is in each case a local one, but the university must control and support all of the teaching, and the work must be so organized as to save the student's time to the utmost. His time must not be used up in long daily trips from one part of his work to the other. Extreme centralization of a medical school makes for certain kinds of economy, but if this economy is attained by giving up the use of clinical material, it may be after all a false economy, and the university may fail to do its duty in promoting the highest service in public work.

The Fifth or Hospital Year

DR. WILLIAM PEPPER, Philadelphia: The state boards should decide on the merits of individual hospitals, should classify them and make a list of hospitals in which candidates could spend their intern year. It is becoming yearly easier to place graduates in satisfactory hospitals. We fail to see the necessity for the control of hospitals by medical schools. It is hopeless as well as useless to wait until each school owns or controls acceptable hospitals in which to place all of its graduates. I believe it not to be to the best advantage of a hospital to get all of its residents year after year from the same school. Too much inbreeding is a bad thing.

How will the fifth year requirement affect the student? In a small minority it will add to the difficulties, but it will affect most those needing better training, the poorly prepared man, and it is for these that this requirement is intended. The best men practically all take hospital positions now. As to the effect on the hospital, I believe that this will prove the entering wedge whereby we may expect to obtain better facilities for our graduates serving as residents in hospitals. The state board by classifying hospitals as acceptable and non-acceptable will direct the attention of managers to various inadequacies in the service, to lack of laboratory facilities, lack of proper records and innumerable other deficiencies that may exist. There also is the possibility of the state board demanding of acceptable hospitals the right to hold practical examinations in its wards and laboratories. Here is a chance in my opinion to institute real practical examinations. This alone would make the whole plan worth the trouble.

Medical College Organization

DR. WILLIAM C. BORDEN, Washington, D. C.: A properly conducted medical school consists of two main groups, the laboratory group and the clinical group. The work of the laboratory group requires a thoroughly equipped building or buildings, wherein the teaching in anatomy, physiology, chemistry, pathology and bacteriology and materia medica and pharmacology, with all of their various subdivisions, may be carried on effectively. The work of the clinical group requires one or more hospitals with sufficient ward facilities and one or more outpatient services, in all of which authoritative control of patients and teaching is had by the teacher in these divisions. An effective modern institution for teaching medicine must have adequate buildings and equipment, including a hospital and a dispensary, and it had best be a department of a university. It should be subject to the authority of the board of trustees and the executive, the president; but this authority should not extend beyond the necessary financial control of education and other matters such as the details of appointment to the medical faculties. The organization of a medical school is intended to give definite assignment of responsibility and authority to every teacher and administrative officer, and to have proper supervision by the responsible heads of the teaching groups, so that proper administration may be had and adequate instruction may be given, and this in such a way that friction may be avoided.

DISTRIBUTION OF RESPONSIBILITIES, AUTHORITIES AND STUDENTS

			Divisions	Subdivision	Students Year
Board of trustees President of the university	Executive section Executive committee Dean Chairman	1. Med. school 2. Hospital 3. Dispensary			
	Educational section Advisory committee Dean Chairman	Divisions of the faculty and distribution of students	Anatomy	Gross anatomy	1st 2d
				Mic. anatomy	1st
				Embryology	1st
			Physiology	Normal	1st
				Pathologic	2d
				Hygiene	2d
			Chemistry	Inorganic	1st
				Organic	2d
				Physiologic	2d
				Clinical	3d
			Pathology	Pathology	2d
				Bacteriology	
				Clinical microscopy	
			Materia medica	Materia medica	2d
				Pharmacology	2d
				Therapeutics	3d
			Medicine	Physical diagnosis	2d 3d
				General medicine	3d 4th
				Dietetics	3d
				Pediatrics	4th
				Tropical medicine	3d
				Psychiatry	4th
				Neurology	4th
				Dermatology	4th
				Venereal diseases	4th
				Preventive medicine	4th
				Forensic medicine	4th
			Surgery	Minor	2d
				General	3d 4th
				Surgical pathology	3d
				Orthopedic	4th
				Genito-urinary surgery	4th
				Radiography	4th
				Ophthalmology	4th
				Otology	4th
				Rhinology	4th
				Laryngology	4th
				Operative laboratory	4th
			Obstetrics		4th
			Gynecology		3d 4th

The medical faculty should be governed by an ordinance or constitution which has to do with two main subjects: (*a*) the administration of the department; (*b*) its educational conduct. The administration is best placed in the hands of an executive committee with the dean as chairman and to include with others the professors of medicine and surgery, as representing the two most important clinical divisions. This executive committee is a subcommittee of the advisory committee of the university. The accompanying diagrams will give an idea of an organization, which has given great satisfaction in the past four years.

As the dean's office is the administrative center of the department of medicine, its organization and conduct are of great importance. Under the dean as the head of this department of the college there is (1) the secretary, who has charge of the work and the keeping of the students' records; (2) the superintendent of medical buildings, who has charge of the bookkeeper, the purveyor, the janitors and the engineer, the latter having charge of the firemen, carpenters and other workers; (3) the superintendent of the hospital, and (4) the director of the dispensary. That makes a very good division of the work of the dean's office.

RESPONSIBILITIES AND AUTHORITIES, UNIVERSITY HOSPITAL AND DISPENSARY

- Board of trustees President of the university
  - Teaching section
    - Advisory committee Dean
      - Dispensary
        - Director of the dispensary
          - 1. Assistant director
          - 2. Chief of the clinical division; assistant clinician
          - 3. Chief of the dispensary laboratory; assistants
          - 4. Skiagrapher; assistants
          - 5. Record clerk
          - 6. Nurses on dispensary service
          - 7. Orderlies, etc.
      - Hospital
        - 1. *Chiefs of clinical division; assistant clinicians*
        - 2. Chiefs of clinical laboratory; assistants
        - 3. Skiagrapher; assistants
  - Administrative section
    - Executive committee Dean
      - Superintendent of the hospital
        - 1. Resident physician; interns
        - 2. Anesthetists
        - 3. Pharmacist
        - 4. Superintendent of nurses
          - 1. Head of nurses; ward supervisors; pupil nurses
          - 2. Operating-room nurse
          - 3. *Special nurses (graduates)*
          - 4. Orderlies
          - 5. Ward laborers
          - 6. Ward maids
        - 5. Stewardess
          - 1. Cooks
          - 2. Kitchen maids
          - 3. Dining-room maids
          - 4. Kitchen and dining-room laborers
        - 6. Assistant superintendent
          - 1. Bookkeeper
          - 2. Purveyor
          - 3. Record clerk
          - 4. Telephone *and office attendants*
          - 5. Engineer
            - Fireman
            - Carpenter
            - Electrician, etc.

Report of Committee on Pedagogics

The report of this committee, made by Dr. E. P. Lyon, the chairman, will be published in full in The Journal later.

FEDERATION OF STATE MEDICAL BOARDS

First Annual Conference held in Chicago, Feb. 25, 1913

On account of the illness of Dr. A. B. Brown of Louisiana, president, the vice-president, Dr. Charles H. Cook, presided.

Officers Elected

The following officers were elected: president, Charles H. Cook, Natick, Mass.; vice-president, Albert de Bay, Orange City, Iowa; secretary-treasurer, O. V. Huffman, Albany, N. Y. Executive Committee, three-year term, James A. Duncan, Toledo; two-year term, J. M. Baldy, Philadelphia; one-year term, Herbert Harlan, Baltimore.

The next annual conference will probably occur in Chicago the last week in February, 1914.

The following boards were represented: Arkansas, eclectic; Arkansas, regular; Indiana, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, New York, Ohio, Pennsylvania, South Carolina, Vermont, Virginia and Wisconsin.

The following boards have paid the dues for charter membership, or have expressed a desire to become charter members, but were not represented at the meeting: Iowa, North Dakota, Oregon, Rhode Island and Utah.

The following became charter fellows of the organization: Emil Amberg, John P. Bennett, A. B. Brown, N. P. Colwell, Charles H. Cook, R. D. Copeland, Homer Dupuy, Espey M. Williams, W. P. Harlow, F. F. Lawrence, J. G. Martin, Murray Galt Motter, F. T. Murphy, George C. Tallerday, F. C. Waite, S. L. White, Fred C. Zapffe. Dr. John K. Scudder was elected an honorary fellow.

By action of the Executive Committee, the time for charter membership in the federation was extended to July 1, 1913. All boards desiring to become affiliated as charter members may do so by forwarding the dues, $25, to the secretary-treasurer. All those desiring to become charter fellows may, on the payment of $1, be so considered. Ex-members of state medical boards may, on application to the Executive Committee, become honorary fellows without payment of dues. Delegates from the United States Army, the United States Navy and the Public Health Service will be admitted to all sessions of the federation on the same basis as honorary fellows.

Should Medical Boards Require One or More Years of College Work?

Dr. W. J. Means, Columbus, Ohio: The activities of medical boards are fixed largely by statutes. The provisions in most states, however, are quite liberal, and while they differ considerably in specifications, in the main the boards are given great latitude in the execution of their functions. Few medical boards have exercised their full power in any of their functions so far as my observation goes. This is especially true in the supervision of the preliminary educational [illegible] and in inspecting colleges. Their sins ar[illegible] of [illegible] rather than of commission. Medical [illegible] much broader supervision under the [illegible] It is certainly within their po[illegible] liminary educational requiren[illegible]

Without a uniform high school standard, honestly administered, it is folly to talk about higher requirements. Various high-school standards for admission have been set, but the evaluation of these standards varies more than do the standards. Personal mathematics with different rules of addition, multiplication and division seem to enter into the evaluation very largely. The New York Board of Regents, for example, maintains that its sixty counts are of more value in work required than the Carnegie fourteen units. The proportion, it is claimed, is six to five in favor of the New York standard. It is evident that the Carnegie Foundation has lowered the fifteen-unit standard. Its fourteen units may be made up from all sorts of subjects, none of which may have any scientific value. In other words, there are no required subjects, and medical colleges are taking advantage of this looseness, and state boards are being influenced by the college demands. Of much more importance than the number of units or counts is the subject-matter that makes up the credits. Graduation from a first-grade high school alone should not be the standard on which a medical certificate is granted. In New York the recent requirement of one year's work in chemistry, biology and physiology is specified work included in the sixty counts. It is raising the requirements in contents only.

The medical curriculum as it stands to-day requires preparation in addition to that of the high school. Without some training in chemistry, physics and biology, medical students are handicapped. These studies give the student the preparation which saves time when he enters on his medical work. The physician should have a broad liberal education, therefore his preliminary education should include a good knowledge of English and other cultural subjects, such as mathematics and foreign languages. The four years in high school are all too short to get the required educational training and the cultural education necessary to round out a professional career.

The physician's activities are not confined to the healing art. The problems of public health and the problems of citizenship must be met. From an educational point of view no good reason can be offered against a one or two years' college course. Two years is the ideal, one year the necessity. The poor-boy plea is no longer looked on as a reason for low requirements. That well-trained doctors prefer urban to rural practice is also no longer a truism, and rural districts are entitled to just as good treatment and as highly educated doctors as the cities. Physicians everywhere are better educated men now than they were years ago. My experience with the country doctors almost persuades me that efficiency in the healing art is more evident in the country than in the city. High standards will not deprive country districts of doctors. A physician who knows nothing but the issuing of drugs is of little value to any community. That higher education necessarily means expenditure of more time and more money will not deprive the people anywhere of needed medical attendance. It is the duty of state boards to be alert in exercising the power given them in maintaining high preliminary standards and in inspecting medical colleges, as well as their product. State boards should carry out the will of public sentiment as expressed by the organized interest in medical education. State medical boards must keep pace with public opinion.

Should Internship Be Required for Graduation?

Dr. Isadore Dyer, New Orleans: There can be no question of the correctness of the proposition that a hospital experience is desirable for the man who intends to practice medicine, and that such a man is possessed of more efficient training than he who has not had such service. There is some question, however, as to the expediency of promulgating any rule requiring such service. We should have an intern year when we can offer it adequately. Until then we should not make a pretense of making a requirement which we know it will be impossible for the majority to satisfy.

The questions to be considered in this connection are: 1. In what particulars do medical graduates lack most for the practice of medicine? 2. Are there enough hospitals properly equipped and so administered as to allow this? 3. How can the college require an intern year if it cannot direct or apply the sort of service required, and how can it pass on a credit for an intern year unless the hospital and the intern are under the control of the college? 4. Further, what class of hospitals will be qualified to afford the required service and the required conditions?

Hospitals must either be standardized for educational purposes, or the intern year credited on some basis of work, according to which full or modified conditions may be allowed. At present it seems almost impossible to standardize the intern year. The ideal condition must presuppose the affiliation of the college with the hospital so as to allow direct supervision of the intern while engaged in hospital work. The intern must establish credits for systematic work in medicine, surgery, obstetrics, pathology and correlated subjects. Such a division of service will necessitate the arrangement of periods in the hospital, with rotating groups to different fields of work, changing every three or four months in order to cover all the clinical branches. The hospital administration must be willing to allow the intern service to be used for educational purposes as the first object, and to make second the business of the hospital, for the frequent changes of service among interns can hardly make for the greater efficiency in the administration.

The efficiency of the hospital intern grows greater as the service of the intern is concentrated on division of work. Therefore one year of service is of doubtful usefulness to the hospital. and of still more doubtful usefulness to the intern, especially if he is harassed by frequent changes in the assignment, which make of him an untrained man in each. The intern year, then, if made obligatory for licensure, should require service that makes for efficiency in the greatest number of subjects, and especially should argue that one year cannot create such efficiency under the existing organization of hospitals. The postgraduate clinic year is more likely to accomplish results than the intern year without proper supervision. The intern year is desirable for licensure if it can be made systematic, which at this time is not probable. Therefore any rule requiring an intern year is inexpedient, and if adopted would work a hardship on all but the graduates of a few colleges owning or controlling hospital service.

There should be an attempt at the gradual standardization of hospitals to educational purposes with the future expectation of correlating hospitals and colleges of medicine in each state. This will require large education of the lay community. Until such time a fifth practical clinical year should be required of medical graduates, and therefore should be required by the state boards of examiners. To make such a clinical year efficient, state boards of examiners should stipulate the detail and amount of practical clinical work in each branch to be taken as part of the application for a license before the candidate is admitted to an examination. Such a stipulation should include each branch of medical practice and the scope of training required.

DISCUSSION

Dr. William Pepper, Philadelphia: The state board should say where the internship should be taken. The University of Pennsylvania does not want the control of students after graduation, nor does it want supervision of hospitals. The state board must have its form of examination and make it a practical examination conducted in the wards of the hospital.

Dr. Reuben Peterson, Ann Arbor, Mich.: I favor the intern year, but before the matter is adopted as a requirement, the subject should be discussed carefully. No board or school has the right to demand a fifth clinical year without proper knowledge of hospitals and of what work should be done by the intern. This work should be part of the college curriculum, and the degree should not be granted until after a student has served his hospital year, so that the college will have full control of his time and work. Hospitals must be standardized and the work so arranged that the intern gains a fully rounded course, which may be of value to him in his practice.

Dr. Egbert Le Fevre, New York: There are not enough places in hospitals for all medical graduates. The control of this question should reside with state boards. The service in most hospitals is two years, and a man who wants to serve only one year cannot secure a place. Will you demand general service or accept special service done in special hospitals? I do not believe that we are ready at present to make this requirement obligatory, but we should give academic credit to every man who has taken such service.

Dr. J. M. Baldy, Philadelphia: The plan in Pennsylvania is for the examining board to have full control of the hospitals. The medical student should not be considered. The community must be protected and the student must do what is necessary, so that when he enters on the practice of medicine he is competent to do so without doing injury to the community. The hospitals are badly organized to do this work, but a beginning should be made now. In the June examination in Pennsylvania, fifty-three men failed. Forty-two of these went into hospitals afterward, taking a six months' service. Eleven did not do this. Some of these eleven failed at a second examination, whereas of the forty-two who took hospital work only eight failed. The University of Pennsylvania gives a postgraduate course of which 50 per cent. is clinical, and the board approves of the course and accepts it as a substitute for internship.

Rules and Regulations Governing Examinations

Dr. J. M. Baldy, Philadelphia: There are two different factors at work in making tests of would-be medical men: the schools and the state. The schools teach the medical student the tools and their functions. The state lays down a minimum course of instruction and tests the finished product. It does not test his knowledge of his tools but his knowledge as to the use of his tools, with a sufficiently safe assurance to render it proper for the state to turn him loose on an unsuspecting and unprotected community. The state board should not conduct examinations in chemistry, descriptive anatomy, physiology and other fundamental branches. These subjects are not of prime importance. The state should take over only the finished product and test it as an entity and not in detail. It is for this reason that after Jan. 1, 1914, the State Board of Pennsylvania will admit no applicants to its examinations, either from within the state or without, until a year of service in an approved hospital has been completed; nor will any one be admitted to begin practice in the state through reciprocity who after that date has not fulfilled that requirement. The state board should know whether the applicant is fit to practice medicine, not whether he is familiar with the fundamentals and the use of names, as distinct from practice.

DISCUSSION

Dr. W. B. Hinsdale, Ann Arbor, Mich.: The function of the state is to protect its citizens by not allowing a person to practice medicine without a knowledge of the subject sufficient to render him safe in practicing. The applicant must show his ability to apply and correlate facts. Therefore questions must be so formulated as to test the applicant's originality and ingenuity in the application of the primary principles of medicine to concrete cases. Colleges are to be reprimanded for not teaching the sciences, and especially for merely trying to prepare students for examination. I do not believe that the time has come for the application of bedside teaching, but questions can be formulated in a blending of subjects of an acceptable nature as in the combined methods of the English examination.

Dr. J. W. Andrews, Mankato, Minn.: If Minnesota followed the example of Pennsylvania it could not examine two-thirds of the graduates of the country. The time will come, however, when all state boards may adopt the conditions mentioned in the paper; but time must be given to work out these standards and to apply them.

Dr. L. E. Seaman, Cleveland: Pennsylvania will surely occupy a unique place, and for many years to come the larger proportion of states in this country will be *persona non grata* with Pennsylvania.

Dr. F. F. Lawrence, Columbus, Ohio: The paper is a practical one and leads up to what must come in this country just as it came in Great Britain, where the teaching institutions are not degree-conferring bodies. The teaching must be done properly in order that schools may continue their existence, and the state boards are the ones to pass on how well this teaching is being done.

Dr. J. M. Baldy, Philadelphia: We expect that in Philadelphia within five or six years the examining functions of the board shall be a purely perfunctory one. The schools will continue the students from the freshmen into the sophomore year, will practically guarantee his studies and the examining board will simply have to visé his work.

CHICAGO SURGICAL SOCIETY

Regular Meeting, held Feb. 7, 1913

The President, Dr. Charles Davison, in the Chair

Juxta-Epiphyseal Sprain and Sprain Fracture of the Lower End of the Radius

Dr. Kellogg Speed: If the capsule tears or gives way the bone does not break, as a rule, but, as demonstrated by Ross and Stewart, the ligament is stronger than the bone or periosteum, and in the majority of tests on the cadaver pulls out the bone surface or causes by its line of stress a sprain fracture across the impact-receiving area. Stimson believes that too much stress has been laid on the supposed rupture of the internal lateral ligament in sprains at the wrist, for his experiments do not show this, except in cases with marked displacement.

Three causative mechanisms have been worked out: 1. Splitting or crushing by force from carpal bones. 2. Radius yielding at the weakest point by breaking up of the causative force. 3. Cross-strain exerted at insertion of capsular ligament, especially on the anterior aspect with the hand in dorsal hyperextension. The last-named factor has never been given its full value. What in one case will give merely the sprain with ligamentous damage, in another will cause epiphyseal or sprain fracture of the styloid process with little displacement and no comminution. Fracture force in distinct fracture causes the bone to break frequently in the line of epiphysis; and the lower fragment, forced on by a continuation of the pressure, is driven on up into the cancellous portion of the shaft, giving the impacted Colles'. As the swelling and soreness are often not great at first, and superficial examination gives no crepitus, no false motion and little deformity, which a sprain alone or a small hematoma might account for, these cases do not come to the hands of the surgeon at once, or if they do are not diagnosed.

Juxta-epiphyseal sprain may be as painful and result in as prominent objective findings. Crepitus excepted, one cannot clearly differentiate if the acute swelling has occurred, as the hematoma formed by the tearing loose of the ligamentous attachments at the wrist, all in the epiphyseal area, simulates the fracture deformity. Local pain on pressure and loss of function are at first as great in sprain with ligamentous laceration and hemorrhage as in true sprain fracture. Ross and Stewart, at the German Hospital in Philadelphia, in going over records found that 15 per cent. of all fractures confirmed by Roentgen ray were sprained fractures, and that in 1910, eleven of these were of the lower end of the radius, and that in 1911 there were seven in the same location.

As diagnostic signs, the following are sufficient: (1) history of sufficient trauma; (2) small sharply localized area of swelling and acute tenderness over attachments of ligaments at the lower end of the radius and ulna. The findings in sprain fractures (under 2) are pronounced and certain, recurring always at the same place when test is repeated, so that one can in 80 per cent. of cases make a clinical diagnosis before roentgenogram.

Treatment should be that of fracture. The wrist is immobilized from the base of the fingers to the elbow in a light plaster splint, the hand in comfortable position, generally slightly flexed, and the forearm midway between pronation and supination. After from ten to fourteen days the splint is removed, the arm massaged, and after the third week no support is needed. This avoids prolonged disability from sprains, excess of callus formation, and better satisfaction to the patient.

DISCUSSION

Dr. E. Wyllys Andrews: I do not see how any one can help being impressed with the methods described in this paper. An hour of this sort with the actual roentgenograms from cases is worth more than a whole treatise, such as Hamilton's or Scudder's, especially the former, before the days of roentgenograms. Now we have pictures of the bones as they actually are and can trace the line of fracture in any given case. We do not have to generalize and theorize about the mechanics of the causation, or whether the fracture is direct or indirect. We do not have to theorize about the mechanics of reduction and retention, or whether the fracture is epiphyseal or not, or impacted or not. It surprises me to find that such a large proportion of so-called sprains are actual fractures. We have known of cases of fracture of the shoulder-joint associated with rupture of the small fragments of the rim of the joint, and in the hip-joint we find them in dislocations and fractures of the neck, tearing and stripping off segments of bone.

Dr. D. B. Phemister: In children between the ages of 8 and 16, we frequently see what is known as a folding fracture. As a result of violence, the cortex in this location, which is still flexible, bends outward. It is not a green-stick fracture. Fracture occurs when the resistant cortex meets a flexible cortex, and the older the child, the nearer the bone is to the epiphysis; between the ages of 8 and 15 it is located an inch and a half above the joint. In an adult the bone will break, but in a child the cortex is still flexible, and as a result of impaction and slight flexion, the cortex bulges outward. I have had five cases of this type of fracture which I have seen in the last few years.

Bilateral Urinary Calculi

Dr. Daniel N. Eisendrath: I have had two cases, and at the Michael Reese Hospital we have had five other bilateral cases. In one no operation was performed because the patient had a carcinoma of the uterus. In one case the renal calculus was removed, but the patient died some months later of a senile intercurrent disease before the opposite ureteral calculi could be removed. In one case no operation was performed, owing to an advanced pulmonary tuberculosis. In a fourth case the calculi were first removed from the right kidney by Dr. McArthur, and after an interval of three months an attempt to remove a left-sided calculus by the ureter through a pyelotomy incision was followed by such severe bleeding as to require removal of the kidney. This case has been reported elsewhere as showing one of the dangers of pyelotomy. The right remaining kidney continues to show negative shadows, and the patient is three months pregnant at the time this article is being written.

DISCUSSION

Dr. L. L. McArthur: There succumbed to operation at the Michael Reese Hospital two months ago a man from whom I removed a calculus a year before. It was so soft and friable that I was sure I had removed all of it. I had put on the record the probability of this man having a recurrence of the stone because of the fine fragments which might remain in some of the calices of the kidney. True enough, in a year he came back with the recommendation that the kidney should be removed if recurrence occurred. I removed the kidney, but as there was sepsis at the time of its removal the patient failed to improve, and finally died of a chronic sepsis a month and a half after the operation. I believe that the contour of the calices of the kidney in the cases of multiple calculus enables us to make a prediction of probable recurrence.

The case to which Dr. Eisendrath referred, which has been under my care, is that of a young girl who had a left renal colic first. After the stones had been demonstrated with the Roentgen ray, they were removed, although the right kidney showed stones that were causing no trouble. The patient remained well for nine months or a year, and then had right renal colic so severe that the stone from the right kidney was removed. After a year's lapse of time, the urine never clearing up completely, the patient came back with left renal colic, both kidneys showing stones in them, for which a third operation of emptying the kidney was done. She has some uneasiness in the right side, but otherwise is very comfortable.

Dr. A. J. Ochsner: There is no doubt in my mind that there is a sympathetic anuria, because I have made personal observation of that condition in several cases in which there was positive evidence. About twenty years ago Harrison of London demonstrated that calculi formed only in case the urine had a certain density, and this density cannot be reached if a patient takes a sufficient amount of distilled water. It is possible in these cases to prevent recurrence of calculi, provided that the patient is sufficiently impressed with the importance of taking distilled water. I have had the opportunity of demonstrating that in a large number of cases. One case which illustrates this was in a colleague of mine who could be freed from calculi provided he drank distilled water, but if he grew careless and failed to drink it, the calculi would return.

Another case I had that demonstrates the value of distilled water was in a patient who had renal colic constantly until about six years ago, when I ordered him to drink only distilled water. For six or seven years he never had an attack, until two years ago. During the summer he was building a house, and thought that it was too much trouble to drink distilled water; before the summer was over he had another attack. He lived in northern Wisconsin. He came to see me during the attack; I gave him 2 ounces of whisky and 1 ounce of distilled water several times and he improved. Since that time, he has had no attack, although formerly by drinking ordinary water he would have an attack every three or four months.

Tumors of Large Nerves Associated with Fibroma Molluscum, with Exhibition of Largest Specimen on Record

Dr. Norman Kerr: My case is of interest because of the large size of the tumor which was removed from the left sciatic nerve Jan. 29, 1912, at the Chicago Policlinic Hospital. The patient, a woman aged 22, about seven years ago was struck on the back of the lower third of the left thigh by some one's knee while at a dance. No attention was paid to this until about a week later, when a swelling was noticed which grew slowly until at present it appears to be the size of a cocoanut, is of solid consistence and is slightly movable in all directions when the posterior muscles of the thigh are relaxed, but fixed when they are held tense. There is no particular enlargement of the superficial veins, and no disturbance of nerve function, except during the last four days, during which she experienced a moderate amount of pain in the growth. Cutting down on the growth showed it to involve the sciatic nerve; it measured 6 inches in length by 3 in diameter, and weighed 1 pound and 3 ounces. The pathologist reported the tumor to be a fibroma. The time since the operation has been too short for evidences of regeneration to show themselves on account of the great length of nerve-trunk which was removed.

Book Notices

Leonardo da Vinci Quaderni d'Anatomia II. Ventiquattro Fogli della Royal Library di Windsor. Cuore: Anatomia e Fisiologia. Publicati da Ove C. L. Vangensten, A. Fonahan, H. Hopstock. Vellum. Price, 3 pounds 8 shillings. Christiania: Jacob Dybwad, 1912.

The manuscripts of the anatomic papers and anatomic drawings of Leonardo da Vinci are preserved in the Royal Library at Windsor. Until recently this most remarkable work had not received adequate scholarly attention, but fortunately King George V. granted three Norwegian scientists permission to collate and photograph the original sheets at Windsor, and also to publish facsimile reproductions (collotype) together with German and English translations of the text. The result is a publication, in every sense monumental, the second volume of which is before us. The first volume was published in 1911 and contains twenty-two sheets dealing with a variety of anatomic and other subjects, the most important being the heart and its motions. The second volume contains thirty-three sheets in facsimile reproduction all dealing with researches on the heart and its functions. It is the purpose to publish a third volume this year which will contain Leonardo's papers on the organs of generation, and then to follow with the remainder of the hitherto unpublished Windsor papers. The editions consist of 248 numbered copies; there will be no reprint. American libraries and bibliophiles should not neglect to secure this great work, which is of signal importance to medical history and to a full understanding of one of the most gifted and remarkable men that ever lived. The editors are peculiarly well qualified for their difficult task—Vangensten is a philologist, Fonahan a medical historian, and Hopstock an anatomist. Leonardo wrote from right to left probably because he was naturally left-handed, and the critical editing of the manuscript consequently is associated with unusual difficulties which have been mastered in a brilliant manner according to the opinions of competent scholars in different countries. The translations appear to be highly successful, and the heliotypes are beautiful. On many of the sheets the drawings take up but little space in comparison with the text, but even the smallest sketch is reproduced with the most minute exactness so that there surely is no loss of clearness in comparison with the original. From the technical point of view the publication reaches the top notch of the printer's art.

X-Ray Diagnosis and Treatment. A Text-Book for General Practitioners and Students. By W. J. S. Bythell, B.A., M.D., Hon. Physician to the Ancoats Hospital, Manchester, and A. E. Barclay, M.D., M.R., C.S., L.R.C.P., Medical Officer to the Electrical and X-Ray Departments Manchester Royal Infirmary. Oxford Medical Publications. Cloth. Price, $5.50. Pp. 147, with 118 illustrations. New York: Oxford University Press, 1912.

This book is based on a large experience in *x*-ray work in various institutions in Manchester. It is a record of personal work, and like all such statements from competent workers is interesting. As the authors intimate in their preface, the great difficulty with *x*-rays in medicine is that the work has as often as not been in the hands either of radiographers who knew no medicine or of physicians who knew precious little of *x*-rays. Bythell and Barclay are among the group—may their tribe increase—who know both, and they have furnished an excellent little book on diagnosis. The subject of *x*-ray examinations in its various anatomic localities has been excellently covered. At the end of each chapter there is a large collection of skiagrams with explanations illustrating the conditions which have just been considered in the text, and this is perhaps the best feature of the book. While the authors specifically disclaim any pretense of having offered an atlas, the illustrations are so many and so well chosen that the work amounts almost to an atlas of diagnostic radiography. Little is said about technic or apparatus, so that the book is more valuable for the mature *x*-ray worker than for the beginner. Only one chapter—14 of its 145 pages—is devoted to *x*-ray therapy, and this part of *x*-ray work is only sketched.

The Milk Question. By M. J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard Medical School. Cloth. Price, $2 net. Pp. 309, with illustrations. Boston: Houghton Mifflin Company, 1912.

This is a presentation of the N. W. Harris lectures for 1912 which were given by Prof. M. J. Rosenau, under the auspices of the Northwestern University. Why we have a milk question is fully explained in the first chapter. The author takes a sound attitude toward the exaggeration of the danger from milk, and his motto is "to enlighten, not to frighten." The presence of harmless as well as harmful bacteria is emphasized, since large numbers of harmless bacteria gain access to milk, so that numbers alone do not constitute danger. Special attention is given to pasteurization of milk, and although the author states that clean natural milk can never be replaced by treated milk, he admits that pasteurization has been forced on us and that clean, safe milk is at present problematic. In this connection he discusses the advantages and shortcomings of medical milk commissions and points out some disadvantages of the present system of inspecting dairies and recording the results on score cards. "Methods are much more important than equipment. Clean milk may be produced with clean methods and poor equipment, but good milk cannot be produced with good equipment and poor methods."

A strong plea is made for the eradication of tuberculosis among cattle. The value of the tuberculin test is emphasized. Of special interest is the eighth chapter, which gives the "experience" of milk from farm to consumer, and shows the points where contamination may take place. Nevertheless, certain statements seem rather radical. The value of the so-called germicidal action of fresh milk, which lasts but a few hours after milking, is probably of little practical value in reducing the bacterial content. This germicidal action prevents to some extent the multiplication of bacteria in the cistern. Also, it is disputed that normal milk has "few or no leukocytes." Some authorities hold that the charring of cooked milk is due to the proteins in milk rather than to the milk-sugar, as stated by the author. These are minor points, however. The keynote for the solution of the milk problem is well expressed in the sentence, "To keep milk clean we need inspection; to render milk safe we need pasteurization."

Medizinisch-Chemisches Laboratoriums-Hilfsbuch. Von Dr. Med. et Phil. Ludwig Pincussohn. Cloth. Price, 13.50 marks. Pp. 443, with 75 illustrations. Leipzig: F. C. W. Vogel, 1912.

This is an unusually useful book, containing, in addition to the material commonly found in laboratory guides, extensive tables of data which are likely to be useful to the laboratory worker. In laboratories where the exhaustive "Handbuch" of Abderhalden is not available, this small, compact work will be found of great use. There are, of course, in every laboratory special methods of technic devised and used with success, which will not be found described in this or any other book; but Pincussohn has made a good selection in most cases. We note with pleasure an occasional reference to the original description of a method, only to regret that such references are not more abundant. It often happens that, no matter how carefully the writer of a laboratory manual describes in abbreviated form a technical method, difficulty is found in making the method work. Then the worker needs to go to the more explicit descriptions available in the original articles for help out of his difficulties, and without any reference in his laboratory guide these are commonly difficult to locate. In our opinion the absence of satisfactory references is a serious deficiency in most laboratory guides, and the small amount of space required for these could easily be spared.

A TREATISE ON PELLAGRA. For the General Practitioner. By Edward Jenner Wood, S.B., M.D., Chairman of the Pellagra Commission, North Carolina Board of Health. Cloth. Price, $4. Pp.

Dr. Wood offers as the justification for this book the fact that when it was begun, five years ago, there was no adequate treatise in English on the subject. Although this lack of literature on pellagra in English has been supplied in the great amount of literature on the subject which the last five years have given us, the book still justifies its existence, for it is a most useful summary of the knowledge of the subject. The author writes from first-hand knowledge of pellagra and evidently after long and thoughtful interest in the subject, so that the personal element is not lacking—indeed it is agreeably present in a frank honesty, a lack of prejudice and hobbies, and a practical wisdom; but the chief value of the work lies in the comprehensive presentation of the facts of pellagra which it offers. The subject is divided into the history, etiology, general characteristics, skin manifestations, digestive disturbances, nervous and mental symptoms, diagnosis, prognosis, prophylaxis and treatment, and under these various headings the author has included practically a complete summary of our knowledge of this baffling disease. The chapter on etiology is naturally the most interesting. The author is a disbeliever in the maize theory and inclines to Sambon's simulium theory of its transmission. The style is easy and interesting. Altogether, it is a valuable book.

GESAMMELTE WERKE VON K. G. LENNANDER. Im Auftrage der Universität zu Upsala. Unter Mitwirkung von Dr. K. H. Giertz, Prof. Dr. K. Petren, Dr. A. Petterson, Doz. Dr. Fr. Zachrisson und Prof. Dr. H. I. Ohrvall. Herausgegeben von Dr. Gustaf Ekehorn, Professor der Chirurgie an der Universität Upsala. Paper. Parts 1, 2 and 3. Pp. 1333, with illustrations. Price, 30 marks. Upsala and Stockholm: Almqvist & Wiksells Boktryckeri, 1912.

Lennander was professor of surgery in the University of Upsala from 1892 until his death in 1911 at the age of 51. The republication of his collected works by the university indicates the high value placed on his work by those among whom it was carried on. Lennander had many friends among American surgeons, and it is on this account and according to his personal wish that the articles originally published in Swedish have been translated into English. The articles published in German and in French are reprinted without change. This makes the writings of Lennander easy of access and this is desirable because he made contributions of permanent value to the literature of surgery.

THE HOSPITAL CORPS QUIZ COMPEND. A Manual for the Hospital Corps, U. S. Army Hospital Corps, National Guard Red Cross Association and for Students and Practitioners. By Frank C. Griffis, M.D., Medical Reserve Corps, U. S. Army. Cloth. Price, $0.75. Pp. 218. Columbus, Ohio: Edward T. Miller Company, 1912.

Dr. Griffis, in this little manual, has given us in condensed form and yet in sufficient detail, an outline of what is required of a soldier in the Hospital Corps of the Army when he is called on for active service. The book will be of value to the Hospital Corps of the National Guard and the Red Cross organizations. A section is allotted to each of the following subjects: the hospital corps in the post and field; elementary anatomy and physiology; first aid; nursing; mess management and cooking; materia medica, therapeutics and pharmacy; hygiene of the post and camp, and minor surgery. A full and complete index adds greatly to the value of the book.

THE PREVENTION AND TREATMENT OF DISEASES IN THE TROPICS: A Handbook for Officials and Travelers Compiled Chiefly for the Use of Officials in the Soudan. By Edward S. Crispin, M.R.C.S., L.R.C.P., Assistant Director of the Soudan Medical Department. Cloth. Price, $0.50 net. Pp. 89. Philadelphia: J. B. Lippincott Company, 1912.

This little book takes up first preventive treatment by the destruction of disease-carrying insects and protection from their attack, and then personal hygiene, discussing clothing, drink, food, etc. The second part deals with treatment and, incidentally, with rapid diagnosis. The diagnostic value of pain in different parts of the body is briefly mentioned and the treatment outlined. One chapter is devoted to the consideration of the treatment of injury or disease characterized by symptoms other than pain.

Medicolegal

Medical Practice Act and What Constitutes a Violation Thereof

(People vs. Dunn (Ill.), 99 N. E. R. 577)

The Supreme Court of Illinois affirms a judgment for the plaintiff in this action to recover, for the use of the State Board of Health, the penalty provided by sections 9 and 10 of the medical practice act of 1899 for a second violation of section 7 of that act. The action was begun by the filing of a praecipe and statement of claim, in which it was alleged that the defendant practiced medicine, as defined in section 7, by treating and professing to treat, and prescribing certain material remedies for, the physical ailments of another without a license so to do, as provided by sections 2 and 3 of the medical practice act, and alleged, further, that the offense was committed in the city of Chicago on or about Oct. 16, 1910, and Jan. 26, 1911, and that the defendant had been previously convicted of the same offense. There was a verdict of guilty on which a judgment was entered for $200 and costs, the defendant being ordered committed to the county jail, until the debt and costs were paid, for a period of not to exceed ninety days.

It was contended that the act is a violation of the constitutional provision which prohibits the general assembly, by local or special law, from "granting to any corporation, association or individual any special or exclusive privilege, immunity or franchise whatever." But the court deems it a sufficient answer to this contention to say that the State Board of Health, as created by the statute, is a branch of the executive department of the state government, and its members are officers of the state. That board, therefore, is not a corporation, association, or an individual, as those terms are used in the section of the constitution relied on. The right given the board by the medical practice act to sue for and recover the penalties therein imposed does not constitute the granting of any special or exclusive privilege, immunity, or franchise to that board or its members.

As to the contention that the act is a special law which violates the provision of the state constitution that where a general law can be made applicable no special law shall be enacted, the court says that the act, if it be special, does not fall within any of the cases enumerated in section 22 of article 4 of the constitution in which local or special laws are prohibited. This court has repeatedly held that the general clause at the end of the section, that "where a general law can be made applicable no special law shall be enacted," addresses itself to the general assembly alone, and when that body has concluded a special law is necessary, except in the cases already prohibited, its conclusion is not subject to judicial review.

It was next urged that there was error in denying the defendant's motion for a more specific statement of claim, the defendant contending that thereby she had been deprived of the opportunity to make a proper defense, her theory being that she should have been furnished with the names of the parties she was alleged to have treated. But whether a more specific statement of claim will be required is discretionary with the court, and in this case the discretion was not abused. The statement gave the dates on which it was alleged the offense had been committed, and it was not necessary to give the name of the person alleged to have been treated, or to state that the name of such person was unknown.

Again, the defendant contended that as this is a penal statute, it must be strictly construed, and that there was no violation of the law shown. Two witnesses, a Mrs. Seivert and another woman, testified that they were inspectors of the State Board of Health, and that they went together to the defendant's home on Jan. 26, 1911, when Mrs. Seivert asked the defendant if she could cure cancer, and she said that she could, asking Mrs. Seivert if she had one. Mrs. Seivert's reply was that she did not think so, but had a scar on her neck and had been sick for some time. The defendant then got a magnifying glass, requested Mrs. Seivert to open the collar of her dress, made an examination of the scar, and informed her that it was not a cancer, but a tumor, which she would cure if Mrs.

Seivert would follow her treatment. Asked what her charge was, she said, $2, which was paid. She then told Mrs. Seivert that she would have to pay her $50 more in two weeks, and the balance of $50 in four weeks. When the women were about to depart, the defendant told Mrs. Seivert that, if she did not come back at the time appointed for the treatment, she wanted her to telephone her. Neither of the witnesses saw the defendant again, and no further treatment was given or solicited.

While, strictly speaking, no treatment had been administered to Mrs. Seivert on the occasion of her visit, her ailment was diagnosed by the defendant and every assurance given that she was prepared to treat her, and would give the treatment, and a time was fixed when the first treatment should be administered. A fee was charged and paid for the diagnosis and consultation. The court thinks it clear that the defendant did by this act profess to treat the physical ailment of another, and that the verdict of the jury of guilty was proper.

Lastly, the defendant insisted that the statute was not violated for the reason that Mrs. Seivert was suffering from no ailment whatever, and merely pretended that she had an ailment, but there was nothing in the record which justified this contention, even conceding that it would be a sufficient defense. For anything that appeared in the record the diagnosis of the defendant may have been correct.

Sufficiency of Evidence and Right of Recovery for Attendance on Minor Son Away from Home

(Des Mond vs. Kelly (Mo.), 146 S. W. R. 99)

The Kansas City Court of Appeals affirms a judgment for medical services rendered in attending a minor son of the defendant, while he was sick at his grandfather's home. The court says that the physician died a short time after the suit was begun, and the cause was revived in the name of his administratrix. The evidence was somewhat indefinite as to the number of visits the physician made, but it was shown that the boy was sick about six weeks, that the physician visited him as often, on some days, as two or three times, and, as the boy was afflicted with a severe case of typhoid fever, it was reasonable to suppose that he visited him almost daily at least, as such cases demand frequent visits and the most careful and constant watchfulness of a physician. The boy's sickness was so severe that he required the services of a trained nurse for the whole time mentioned, and that it was thought necessary for her to go with him to the home of the defendant, in company with the physician, at which time he was still very sick. The defendant, also, was one of the party attending the invalid at that time. It was shown that $1.50 for a day visit, and $2.50 for a night visit of a physician to a patient was a reasonable charge, and that $20 was a reasonable charge for the services of the physician in going with the son to his home. January 5, the defendant wrote the physician to the effect that he did not know how many visits he had made to the son; that he wanted him to give the days and dates of such visits, stating that he had paid him $20 the day the physician had brought the son home. In another letter to the physician, dated September 15, the defendant stated that he had paid him $10, and would try and send him a little more every pay-day. It was also shown that the defendant was present at one time while the physician was treating his son, and that he expressed his satisfaction with the arrangement. These letters went to show that the defendant recognized his indebtedness to the physician in excess of the twenty days' services rendered, and that he would continue to pay on each of his pay-days until the whole was discharged.

In view of all the evidence and the reasonable inference to be drawn therefrom, it was sufficient to support the judgment for the plaintiff. In view of the common knowledge that in severe cases of typhoid fever physicians visit their patients almost daily, and sometimes several times each day and often at night, and the other facts and circumstances in evidence, the court thinks the verdict of the jury for $116.30 was not excessive.

The defendant objected to the introduction of any evidence, because the petition did not state a cause of action, in that it failed to state that the doctor was a regularly licensed physician. The objection was not well taken. It is not necessary for the court to discuss the question whether an unlicensed doctor can enforce payment for his services as such; for it was not made an issue in the case. Until that matter was made an issue, the presumption would be that the physician was a regularly licensed practicing physician. It is a rule of law that, nothing being shown to the contrary, men do obey the law. If it was true that the physician was not licensed as such, the defendant should have raised the question by answer, in order to have availed himself of that fact as a defense to the action.

It was further insisted that the plaintiff failed to prove the allegations in his petition that the services were rendered at the instance and request of the defendant, and that they were necessary. The form of the pleading was of no consequence. Yet the court thinks the evidence tended to support the allegations of the petition. The defendant knew the physician was attending the son and rendering the necessary services. This was sufficient to raise the presumption that such services were rendered at his request. But it was not required that any such request should be made, in order to render the defendant liable for their reasonable value, if they were such as come within the meaning of the term "necessaries." It was argued that the defendant was not liable, unless it was shown that he failed to furnish such services, but it was clear that he failed to furnish them, and, besides, he approved of them, and nothing could make it more binding. Proof of the necessity for the services, the approval of them while they were being rendered, and a promise to pay afterward, the court thinks sufficiently supported the allegations of the petition.

Validity of Indictment and of Medical Practice Act

(State vs. Tucker (Miss.), 59 So. R. 826)

The Supreme Court of Mississippi holds that the trial judge erred in sustaining a demurrer to the indictment in this case, which was under Section 1334 of the code of 1906, prohibiting the practice of professions without license, and prescribing a penalty therefor. The court says that the defendant was indicted for practicing as a physician without a license as required by law. It was claimed that the indictment was not sufficient, because it failed to contain the following words of the statute: "Without having first been examined and obtained a license as required by law." The indictment charged that he "did unlawfully practice as a physician . . . and did not then and there have a license so to do." That was a sufficient statement of the offense for the trial of the party charged. A license would not be issued to a person without the examination required by law. It would be a sufficient defense for a person charged to show that he had a license.

The other point raised in the demurrer to the indictment was that Section 1334 and 3691 of the code and the scheme proposed by said sections are prohibited by the fourteenth amendment to the constitution of the United States, which provides that no state shall make or enforce any law which shall abridge the privileges or immunities of the citizens of the United States, nor deprive any person of life, liberty or property without due process of law, nor deny to any person within the jurisdiction the equal protection of the law. But the laws of this state regulating the practice of medicine, prescribing how license for engaging in that profession may be obtained, defining what is the practice of medicine, and providing penalties therefor, are within the police powers which may be lawfully exercised by this state. Certainly the state has a right to make proper and reasonable regulations for certain pursuits and professions. The purpose of the law is to protect the public, and to require all persons who may offer to engage in the practice of medicine to prepare themselves properly for such work, and to answer to the state by examinations as to whether such preparation has been sufficient. The regulations as contained in the laws of this state are certainly not unreasonable; and, as shown by the very wording of the [illegible]te, every person is given an opportunity to co[illegible] and [illegible] practice of medicine

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Pediatrics, New York

February, XXX, No. 2, pp. 81-160

1 *Treatment of Meningitis by Drainage of Cisterna Magna. I. S. Haynes, New York.
2 One Hundred Infants Followed from Birth to End of First Year. C. Herrman, New York.
3 Orthodontia. F. R. Stathers, Philadelphia.
4 *Effects of Heated and Superheated Milk on Infant's Nutrition. H. L. Coit, Newark, N. J.
5 *Rachiocentesis, an Aid to Diagnosis. Its Value in Relieving Convulsions. L. Fischer, New York.
6 Unusual Complications of Infectious Diseases in Childhood, with Report of Cases. A. Stern, Elizabeth, N. J.
7 *Use of Antistreptococcus Serum Locally in Treatment of Vaccinal Ulcers. L. A. Sexton, New York.

1. **Treatment of Meningitis by Drainage.**—Haynes believes that all the evidence points to the cisterna magna as the one logical place where removal of pyogenic cerebrospinal fluid should be practiced. He has performed the operation eight times, but unfortunately all his patients died. This, he says, is no discredit to the operation. These results simply mean that operative relief must be offered at the beginning of the disease. Delay brings disaster. If a patient presents head symptoms, a rising blood-pressure, venous engorgement and edema of the optic papilla, with the absence of the copper-reducing elements from the cerebrospinal fluid, the diagnosis is absolutely sure. The disease is septic meningitis. The end is certain, unless relief be afforded by instant, free and continuous escape from the skull of the excess of cerebrospinal fluid with its content of deadly bacteria and poisons.

4. **Effects of Heated and Superheated Milk.**—After careful and thorough investigation Coit found that there is apparently no serious loss of nutritive value produced by feeding an animal on boiled milk derived from an animal of the same species. At the same time it must be pointed out that the published evidence on this point is scanty. When an animal is fed on the milk of another species, the milk from which has been found to be suitable for this purpose, such small differences as have been found in the nutritive values of raw and boiled milk have been in favor of boiled milk. The milk of the same species has a considerably higher nutritive value for that species than the milk of any other species so far investigated. The evidence dealt with throughout Coit's report emphasizes very forcibly the importance of breast-feeding for the young of all species, and shows the special importance of breast-feeding during the early weeks of life. When artificial feeding has been employed in animal experiments, boiled milk of a foreign species has given more satisfactory results than similar milk raw. The Berlin figures dealing with infants fed on boiled cow's milk, give extremely favorable results, and in view of the evidence collected in this report could scarcely be expected to be surpassed had raw cow's milk been used It is pointed out that the Berlin babies who are artificially fed in connection with the consultation receive milk of a known excellent quality.

5. **Rachiocentesis an Aid to Diagnosis.**—The frequency of convulsions in children prompts Fischer to call attention to the necessity of rachiocentesis as an aid to an early diagnosis of this very important symptom. Intestinal intoxication is a frequent cause of cerebral congestion, resulting in convulsions. But more commonly convulsions are the initial symptoms of an infectious disease, a forerunner of pneumonia, occasionally an early manifestation of scarlet fever, measles or diphtheria. One must not overlook the frequency of convulsions in the beginning of a cerebrospinal meningitis, a tuberculous meningitis, or some malignant form of cerebral manifestation. The diagnosis must be made early so that treatment can be instituted early.

Convulsions recur. Because of their recurrence we can try to control their frequency or prevent their return. This can be accomplished by reducing intracranial pressure. For this purpose rachiocentesis is indicated. Next in importance to relieve the intracranial pressure by lumbar puncture is an injection of a pint of soap-water to empty the rectum. If the child can swallow, give 2 grains of calomel, followed by teaspoonful doses of rhubarb-soda, in all about six doses. This eliminative treatment should be given before any nutrition is ordered. Large quantities of water may be given. An ice-bag should be ordered to be applied over the anterior fontanel. It is important not to move a child too much during a convulsion, for handling the limbs will frequently provoke a spasm.

7. **Antistreptococcus Serum in Vaccinal Ulcers.**—From the first use of antistreptococcus serum three and a half years ago, Sexton noted a marked improvement in the indolent, punched-out vaccinal ulcers, and he has yet to see one that has not responded readily to the constant application of antistreptococcus serum used locally in the form of a wet dressing. The wound is filled with the serum, this is covered with a small wet dressing of same, and over this is placed an oiled silk dressing in order to maintain the moisture as long as possible. The dressings when dry become very hard and stiff. In order to obviate the unpleasantness caused by this the oiled silk is removed and the dressing remoistened, without disturbing it, three or four times daily. The rapidity with which these indolent ulcers respond to this form of treatment is said to be remarkable. Sexton has tried various other serums, including normal horse-serum, but the results have been unsatisfactory.

Boston Medical and Surgical Journal

March 6, CLXVIII, No. 10, pp. 333-372

8 Collection of Facts, Ideas and Theories Relating to Diverse Elements that Contribute to Success in Treatment of Joint Diseases. Relationships Between Visceral Ptosis and Arthritis. Comparisons Between Mild Intestinal Toxemias and Gout. H. W. Marshall, Boston.
9 Diverticulitis. J Stanton, Boston.
10 Case of Infection with Hymenolepis (Taenia) Nana, the Dwarf Tapeworm. I. Gerber, Boston.
11 *Pathology of Typhoid Spine. M. H. Rogers, Boston.
12 Autotherapy (Sputum Filtrate) in Acute Articular Rheumatism: Report of Case. C. H. Duncan, New York.

11. **Pathology of Typhoid Spine.**—In studying reported cases, Rogers says, it is clear that there is a very definite clinical story so that there should be one pathologic process as the basis. Following an attack of typhoid, during the convalescence or within six months' time, there is a sharp, rather sudden onset of pain in the back, usually brought on by some slight injury, or sudden motion. The pain is described as much more severe than is usual in any case of tuberculosis of the spine, and is made worse on the slightest motion. There is usually tenderness to pressure over the portion of the spine corresponding to the pain, and all motions are very much limited. There is often a few degrees of temperature elevation at the beginning; there is never any distinct kyphos. The knee-jerks have been reported as increased, but there is no other sign of paralysis, there being often a decided disinclination to use the legs on account of the pain. This condition lasts from several weeks to from two to three months, and there may be either a complete recovery or there may be some limitation of motion of the spine, and occasionally some deformity showing definite bone changes.

The pathologic process of other bone lesions due to the typhoid bacillus is well known, and those occurring in the tibia may be taken as a description. The simplest process is a localized bone abscess, sometimes three or four in the same bone, in the cortex just beneath the periosteum. These show in the radiogram as a rounded loss of substance, casting a shadow of different density than normal bone. They are generally small, about the diameter of a lead pencil. The typhoid bacillus has been recovered from such conditions, showing that they are true infections and not simply bone cysts. The periosteum may become involved and the process may spread so that the radiogram will show more extensive involvement of the cortex. Evidently the typhoid organism is not virulent enough in the bone to cause a constantly increasing osteomyelitis, such as the cocci group, but tends to remain localized, and to die out. Taking into consideration the sudden onset of these lesions, the fact that they may be multiple and yet localized and circumscribed, there is a strong suggestion that they are the result of septic emboli. The so-called "typhoid spine" is an osteomyelitis of the vertebral bodies, which cause lesions similar to the typhoidal bone abscesses of other bones, located in the cortex just beneath the periosteum.

Cleveland Medical Journal

February, XII, No. 2, pp. 89-160

13 Traumatic Neurosis: Retrospect and Forecast. P. Bailey, New York.
14 Epigastric Hernia. Its Importance in Diagnosis of Obscure Abdominal Conditions. J. Phillips, Cleveland.
15 Sloughing of Nasal Septum after Submucous Resection. D. A. Prendergast, Cleveland.
16 *Factors Concerned in Spread of Scarlet Fever. S. C. Lind, Cleveland.
17 Suturing Nasal Septum after Submucous Resection Instead of Packing. W. J. Abbott, Cleveland.
18 *Station of Presenting Part in Labor. A. J. Skeel, Cleveland.
19 Case of (Hysterical?) Sudden Monocular Real Blindness with Recovery. W. C. Tuckerman, Cleveland.
20 *Case of Fatal Poisoning by Tobacco. E. C. Garvin, Cleveland.

16. **Scarlet Fever.**—Lind does not make any new points but his emphasis of well known ones is summarized as follows: 1. Scarlet fever is due to an unknown virus transferable to monkeys and from monkey to monkey. 2. The virus is found in the throat and nose. 3. Desquamation *per se* is seldom the cause of the spreading infection. 4. Proof is lacking that scarlet fever may be carried through the air. 5. The unrecognized cases are the most potent in its spread. 6. Prophylaxis is difficult and strict isolation is the best means of checking an epidemic.

18. **Station in Labor.**—Skeel urges that the exact station, as well as the presentation and position, should always be carefully considered before deciding the treatment in delayed labor.

20. **Fatal Poisoning by Tobacco.**—In a case cited by Garvin death followed the rectal injection of one pint of water in which was dissolved one and one-half teaspoonfuls of smoking tobacco given for pin-worms. The child, aged 6½ years, immediately complained of faintness, inability to stand and great nausea, and soon commenced to vomit very severely. The bowels also acted at this time and a part at least of the injection was expelled. These symptoms continued for about fifteen minutes, when convulsions ensued, lasting about twenty minutes. The child then became quiet and died in collapse about forty-five minutes after administration of the injection.

Delaware State Medical Journal, Wilmington

February, IV, No. 3, pp. 1-26

21 Technic and Results of Intravenous Injection of Salvarsan. B. A. Jenkin, Wilmington.

Journal of Experimental Medicine, New York

March, XVII, No. 3, pp. 239-372

22 *Cultures from Sputum and Blood in Lobar Pneumonia. T. W. Hastings and E. Boehm, New York.
23 *Pancreatic Transplantations in Spleen. J. H. Pratt and F. T. Murphy, Boston.
24 *Permanent Life of Connective Tissue Outside Organism. A. H. Ebeling, New York.
25 *Intestine Obstruction. I. Toxic Substance Produced in Closed Duodenal Loops. G. H. Whipple, H. B. Stone and B. M. Bernheim, Baltimore.
26 *Idem. II. Toxic Substance Produced by Mucosa of Closed Duodenal Loops. G. H. Whipple, H. B. Stone and B. M. Bernheim, Baltimore.
27 *Extracellular Relation of Malarial Parasite to Red Corpuscle, and Its Method of Securing Attachment to External Surface of Red Corpuscle. M. Rowley-Lawson, New London.
28 *Influence of Lecithin and Cholesterin on Growth of Tumors. T. B. Robertson and T. C. Burnett, Berkeley, Cal.
29 *Pneumonic Lesions Made by Intrabronchial Insufflation of Non-Virulent Pneumococci. M. Wollstein and S. J. Meltzer, New York.
30 *Experimental Study of Bone and Joint Tuberculosis. J. Fraser, Edinburgh.

22. **Cultures in Lobar Pneumonia.**—In thirty-two unselected cases studied by Hastings and Boehm cultures were taken from both the blood and the sputum, and in five of these more than one blood culture was taken. In one case the culture was taken from the blood only, and in this instance the pneumococcus was found. The result in the thirty-two cases in which cultures were made both from the blood and the sputum are as follows: 1. In eleven cases the blood and sputum cultures were positive. (a) In nine cases the pneumococcus was isolated, and five of these patients died. (b) In two cases, instead of the pneumococcus, *Streptococcus hemolysans (longus)* was found. One of these patients died. 2. In twenty-one cases the blood cultures were negative, and in eighteen of these the sputum cultures were positive and in three negative. In these three the only result recorded was the absence of pneumococcus. (a) In nine cases the pneumococcus was isolated. Two of these patients died. (b) In twelve cases no pneumococcus was found. Two of these patients died.

Of the patients in which no pneumococcus was found, in two cases *Bacillus coli* was isolated; in one case *Micrococcus catarrhalis;* in one case a staphylococcus (type not stated); in two cases staphylococcus and streptococcus; in one case *Bacillus influenzae;* in one case *Bacillus fluorescens non-liquefaciens;* in one case an unidentified Gram-positive chromogenic organism, probably saprophytic; and in three cases there are no recorded results except that the pneumococcus was absent. In the total of thirty-three blood cultures, the pneumococcus was found in ten cases (30.3 per cent.); six of the patients died.

During the years 1910 to 1912 sputum cultures were taken from forty-four cases of pneumonia, of which twenty-four showed pneumococci (54 per cent.), and twenty showed no pneumococci (45 per cent.). The authors conclude that typical cases of lobar pneumonia, in which no pneumococci are to be found either in blood or sputum, probably exist more frequently than is generally supposed. These cases are not to be distinguished from the pneumococcus group, except by blood and sputum cultures. *Streptococcus hemolysans (longus)* is an organism which may give rise to such a case. In this connection it is of interest to note that Schottmüller isolated *Streptococcus mucosus capsulatus* from the blood in a case of croupous pneumonia. There is probably no prognostic value in the bacteriologic findings in lobar pneumonia, but from a series of thirty-two cases the authors believe no definite opinion can be drawn.

23. **Pancreatic Transplantations in Spleen.**—Pancreatic transplants to the spleen made by Pratt and Murphy underwent rapid autolysis. In five of the nine animals examined 18 hours to 218 days after the transplantation, no pancreatic tissue was demonstrable. In one dog well preserved acini were found thirteen days after the transplantation. In the other three experiments in which pancreatic cells were present in the spleen, the interval between the operation and the death of the animal varied from eighteen hours to eight days. One dog lived for 187 days with the internal function of the pancreas maintained by a graft in the spleen entirely separated from its original vascular supply and nervous connections. The interval between the date of the transplantation and the death of the animal was 209 days. Although the tolerance for carbohydrates sank to a low point, persistent glycosuria did not develop. Inanition due to the absence of pancreatic secretion from the intestine was the cause of death. The feeding of fresh pancreas supplied this lack in part and apparently prevented the death of the animal in the third week following pancreatectomy. The limit of tolerance to glucose rose for a short time after the feeding of pancreas was begun, but was at a fairly constant low level from May 24 to August 20.

The pancreatic remains at death as determined by serial sections were less than 1 centimeter in size. The larger part of this small nodule was composed of fibrous tissue. Acini were found, and some of the cells contained well preserved granules staining blue with phosphotungstic hematoxylin and identical in appearance with the zymogen granules of the normal pancreas. As these granules do not occur in the cells of the islands of Langerhans, their presence furnishes additional evidence that the pancreatic cells in which they occurred in the graft were acinar cells. No islands of Langerhans were found in any of the sections. If Ribbert's statement is true that only cells that can functionate will live when transplanted, then the presence of normal appearing acinar epithelium in this graft 209 days after the pancreatic tissue was transplanted into the spleen is evidence that the acinar cells can carry on the internal function of the pancreas. This experiment does not disprove the neurogenic theory of diabetes, but it presents additional evidence against it, and in favor of the theory of an internal secretion.

The prevention of diabetes for more than six months by means of the small nodule of sclerosed pancreatic tissue in the spleen, the authors point out, makes the accuracy of Martina's observations improbable. If his graft in the spleen remained active, why did sugar appear in the urine two days after the remainder of the pancreas was removed and persist in large amount, 3 to 6 per cent., until the death of the animal? Inasmuch as the animal lived four months with this degree of glycosuria it is probable that some pancreatic juice was entering the intestine, secreted from remains of pancreatic tissue so small that they were overlooked at the autopsy. Among the dogs in which the authors shut out all the pancreatic secretion from the intestine, marked disturbance of absorption attended with great loss of weight, always occurred.

24. **Life of Connective Tissue Outside of Organism.**—It is stated by Ebeling that connective tissue can be kept in a condition of active growth outside of the organism for more than eleven months, that its mass increases considerably, and its power of proliferation, after such a long period, is more active than at the beginning of its life *in vitro*.

25. **Intestinal Obstruction.**—The authors report on their study of a toxic substance produced in closed duodenal loops, made in dogs by ligatures placed just below the pancreatic duct and just beyond the duodenojejunal junction, together with a posterior gastro-enterostomy. These closed duodenal loop dogs died with symptoms like those of patients suffering from volvulus or high intestinal obstruction. This duodenal loop may simulate closely a volvulus in which there has been no vascular disturbance. Dogs with closed duodenal loops which had been washed out carefully survived a little longer on the average than animals with unwashed loops. The duration of life in the first instance was one to three days, with an average of about forty-eight hours. The dogs usually lost considerable fluid by vomiting and diarrhea. A weak pulse, low blood-pressure and temperature were usually conspicuous in the last stages.

Necropsy showed more or less splanchnic congestion which may be most marked in the mucosa of the upper small intestine. The peritoneum was usually clear and the closed loop was either distended with thin fluid, or collapsed, and contained only a small amount of pasty brown material. The mucosa of the loop showed ulceration and even perforation, but in the majority of cases it was intact and exhibited only a moderate congestion. The authors found that a simple intestinal obstruction added to a closed duodenal loop does not modify the result in any manner, but it may hasten the fatal outcome.

The liver plays no essential rôle as a protective agent against this poison, for a dog with an Eck fistula may live three days with a closed loop. A normal dog reacts to intraportal injection and to intravenous injection of the toxic substance in an identical manner. Drainage of this loop under certain conditions may not interfere with the general health over a period of weeks or months. Excision of the part of the duodenum included in this loop causes no disturbance.

The material from the closed duodenal loops contain no bile, pancreatic juice, gastric juice, or split products from the food. It can be formed in no other way than by the activity of the intestinal mucosa and the growth of the intestinal bacteria. This material after dilution, autolysis, sterilization and filtration produces a characteristic effect when introduced intravenously. When given in toxic doses it causes a profound drop in blood-pressure, general collapse, drop in temperature, salivation, vomiting and profuse diarrhea, which is often blood-stained. Splanchnic congestion is the conspicuous feature at autopsy and shows especially in the villi of the duodenal and jejunal mucosae. Epinephrin, during this period of low blood-pressure and splanchnic congestion, will cause the usual reaction when given intravenously, but applied locally or given intravenously, the engorged intestinal mucosa is not bleached.

Secretion is not found in the duodenal loop fluid, and the loop material does not influence the pancreatic secretion. Intraportal injection of the toxic material gives a reaction similar to intravenous injection. Intraperitoneal and subcutaneous injections produce a relatively slow reaction which closely resembles the picture seen in the closed duodenal loop dog. In both cases there is a relatively slow absorption, but the splanchnic congestion and other findings, though less intense, are present in both groups. The authors are forced to conclude, therefore, that there seems to be no escape from the conclusion that a poisonous substance is formed in this closed duodenal loop which is absorbed from it and causes intoxication and death. Injection of this toxic substance into a normal dog gives intoxication and a reaction more intense but similar to that developing in a closed-loop dog.

26. **Idem.**—In this paper the authors report a series of experiments showing that a toxic substance is produced by the intestinal mucosa during intestinal obstruction and can be demonstrated in it, and that the poison will not be formed in closed duodenal loops when the mucosa has been destroyed by chemical means. Moreover, no such poison can be demonstrated in the normal intestinal mucosa. The blood taken from a dog with a duodenal loop is not toxic to a normal dog when given intravenously. This toxic substance is absorbed from the mucosa itself and not from the lumen of the drained loops. The same is probably true of the closed loops which have an intact mucosa. It seems highly probable that the poison is formed by the mucosa and is in great part absorbed directly from it by the blood. Normal intestinal mucosa contains no toxic substance nor can it neutralize *in vitro* the toxic substance produced in the closed loops. There is no evidence that the toxic material when given intravenously is excreted by the intestine or held by the intestinal mucosa in any demonstrable form. The toxic substance is not absorbed from the normal intestinal tract. Destruction of the mucosa in a closed loop by means of sodium fluorid prevents the formation of the toxic substance. This fact furnishes the final proof that the mucosa is the essential factor in the elaboration of the poisonous material.

27. **Relation of Malarial Parasite to Red Corpuscles.**—Briefly, the author emphasizes that the malarial parasite is extracellular during its entire developmental cycle; that is, with the exception of the brief periods when it is free in the blood-serum, it is attached to the outside surface of the red corpuscle. The parasite secures its attachment to the outside of the red corpuscle by means of filamentous pseudopodia thrown out by the parasite for that purpose. The attaching processes are described as (1) primary and (2) secondary (accessory) *attaching pseudopodia*. She has not been able to find any evidence of conjugation of malarial parasites in any stage of development, and she suggests that it may be that Craig's "conjugating parasites" are the result of a wrong interpretation of the infection of a corpuscular mound by two young parasites and that the idea that the parasites were intracellular perhaps led to the misconception.

28. **Lecithin and Cholesterin and Growth of Tumors.**—The authors found that cholesterin, whether suspended in dilute alcohol or in sodium oleate solution, when injected directly into tumors causes a marked acceleration both of the primary and of the metastatic growth. The acceleration of the growth of the primary tumor by cholesterin is most evident in the premetastatic stage. Lecithin, when injected in the form of an aqueous emulsion directly into tumors, diminishes the tendency to form metastases, retards the metastatic growth when it does occur, and in some instances also retards the primary growth. The retardation due to lecithin is most evident in the metastatic stage. Simultaneous injection of minims 6 strontium chlorid solution into the tumors does not appreciably affect the action of the lecithin.

29. **Pneumonic Lesions Made by Non-Virulent Pneumococci.**—Twenty to twenty-four hour broth cultures of the avirulent pneumococcus were injected by intrabronchial insufflation into eighteen dogs, in doses varying from 10 to 30 c.c. In three instances the dose of cocci was enriched three times; that is, it contained three times the number of organisms, as the result of centrifugalization of a large quantity of culture. None of the dogs died as the result of the inoculation of these doses of avirulent pneumococci. All were killed at periods varying from one to seven days after the dose had been administered. The animals did not appear to be very ill, and only three showed a rise of temperature to 41.1 C., all three having received a dose

of 10 c.c. The animals receiving the enriched doses, as well as one dog to whom 30 c.c. were given, had even less fever and no more severe local reaction than the dogs to whom the smaller dose had been administered.

The intrabronchial insufflation of a non-virulent pneumococcus caused, like the insufflation of a virulent pneumococcus, the development of an exudate in the lungs which, in general, leaves the framework unaffected, and the lesion presents the gross appearance of a lobar pneumonia. It differs, however, materially from the pneumonia produced by virulent pneumococci in the important points that the consolidation tends to a more rapid resolution, the disease is non-fatal, the blood is not invaded by the organism, and the exudate is strikingly poor in fibrin. As to the question which was the starting point for the foregoing investigation, namely, whether the pneumonic lesion produced by the streptococcus is merely a form of pneumonia caused by a less virulent organism, the authors answer that for the dog it seems in the negative. The leukocytic infiltration of the framework of the lungs which occurs invariably in streptococcus pneumonia, and which is practically absent in the lesions caused by the virulent as well as by the non-virulent pneumococcus, is a strong enough feature to form a dividing line between the two forms of experimental pneumonia described.

30. **Bone and Joint Tuberculosis.**—In the course of an investigation into the etiology and pathology of bone and joint tubercle, a number of experiments were performed by Fraser with a view to establishing (1) the routes by which infection spread to the locomotory system, and (2) the factors which governed the localization of the lesion. His results may be summarized as follows: Local bone or joint tubercle is rarely the result of a generalized infection. To illustrate this fact guinea-pigs received known quantities of human tubercle bacilli by subcutaneous inoculation and by feeding.

The first series, ten in number, was infected with amounts varying from 1 to 2 mg. of dried bacilli. The inoculation was made subcutaneously, and six weeks later the animals were killed and examined. Special attention was paid to examination of the bones and joints, and in most instances the bones were submitted to microscopic examination. The necropsy revealed in each case the presence of a disseminated tuberculosis. In no instance was any lesion discovered in the bones or joints. Infection by ingestion was carried out by feeding four guinea-pigs for a period of three weeks on food adulterated with tubercle bacilli. The animals were permitted to live for six weeks and were then killed and examined. Necropsy revealed the presence of general tuberculosis, apparently primarily beginning as a mesenteric infection. Examination of the bones and joints yielded entirely negative results. These experiments illustrate the fact that infection of bones or joints is not a likely possibility in the general dissemination of tubercle. Next, the tibiae of seven guinea-pigs were inoculated. The bone was exposed from its inner or subcutaneous aspect. For about a third of the circumference the periosteum was separated from the underlying bone until an area of 1.9 cm. was exposed. In this area the medulla was opened by raising a tiny trap door of bone, and without infection of the soft parts a fine probe carrying a tiny plug of cotton wool infected with tubercle bacilli was introduced. The wound was then bathed with antiseptic lotion, and the trap door of bone and the raised periosteum were replaced. At the end of a varying period each animal was killed and examined. The infected bone was removed intact and submitted to microscopic examination. The examination revealed in every case, as was to be expected, a general bone tuberculosis. The examination of the infected bone showed that in four of the seven cases a definite tuberculous osteomyelitis had developed; in the remaining three cases microscopic examination afforded no sign of active tubercle; in one instance there existed what apparently was a healed tuberculous focus. There was no source of error in the original infection of the bone, but Fraser believes they were instances of true recovery from infection.

Next, two rabbits were infected with a bacillus of human strain, while two were infected with a bovine bacillus. When rabbit bones are directly infected with the human tubercle bacillus there results no local development of disease. When the bones are infected with the much more virulent bovine bacillus, the virulence of which had been previously demonstrated, a slight lesion appears, but it is circumscribed and retrogressive. It is interesting to note that the rabbits which were inoculated with bovine bacilli showed no evidence of general tuberculosis. The explanation apparently is that the cellular action is so intense as to prevent any general spread of the disease. These experiments were carried out in fully developed animals and the center of the shaft was the site of local infection. To reproduce more exactly the type of infection which occurs clinically, a series of experiments was performed in which young rabbits with growing epiphyses were used, and the bones were infected at what is considered the site of election of the disease; namely, the metaphysis. The experiments yielded negative results. In neither case was there any development of the disease, local or general.

The next question considered was the result of direct infection of the joint cavity. Rabbits were chosen for the experiments and both human and bovine bacilli were employed in individual instances. In striking contrast to the bones, the joints are readily infected with the tubercle bacillus. The degree of reaction which occurred was much more intense in the case of the bovine bacillus than in that of the human. Another series of experiments was performed in which a quantity of tubercle bacilli was introduced into the circulation by injection of a mesenteric vein. Uniformly the results were negative. Infection of the mesenteric veins necessarily produced tuberculous foci in the liver and lungs and occasionally in the overlying peritoneum, but in no instance was there any sign of infection of the bones or joints.

Next, a series of experiments was performed to demonstrate the possibility of hematogenic infection. In a total of six experiments a local infection developed in one instance, and this single positive result was indicated not by an active tubercle, but by a healing and retrogressive process. The value of these results lies in their demonstrating that a circulation of tubercle, a tuberculous septicemia, in fact, unaided by any predisposing factors, is unlikely in itself to produce a local tuberculous lesion of the bone or joint. Other experiments showed that it is possible to infect the joints of a limb by infection of the main blood-vessel with tubercle. The primary infection was of the joint, and any change which may have appeared in the neighboring bone was secondary to the synovia tubercle. This was demonstrated by subsequent microscopi examination. The infection had originated in that portion o the synovial membrane which lines more especially the reflection of the joint. Histologically the changes in the joint subsequent to infection were those of an acute synovial tubercle. I two cases of direct infection of the nutrient artery, the injection entering entirely the medulla, the result locally wa negative. There was some evidence of general infection. Th infected tibia showed a fatty change in the marrow, but n development of tuberculous tissue.

Journal of Ophthalmology and Oto-Laryngology, Chicago

February, VII, No. 2, pp. 35-68

31 Blood Changes in Sympathetic Ophthalmia. H. S. Grad Chicago.
32 Submucous Resection of Nasal Septum, with Report of Hou Cases. H. T. Aynesworth, Waco, Tex.

Laryngoscope, St. Louis

February, XXIII, No. 2, pp. 81-158

33 Modern History of Accessory Nasal Sinus Disease. J. Wrigh New York.
34 Unusual Case of Osteoma of Superior Maxilla. M. D. Ritch Pittsburgh.
35 Early Home Treatment of Deaf Child. G. Hudson-Makue Philadelphia.
36 Inadequacy of Drainage Sometimes Obtained by Ordina Myringotomy in Acute Otitis Media and Method of Overco ing Difficulty. R. Lewis, New York.
37 Case of Cavernous Sinus Thrombosis of Otitic Origin, w Recovery. H. R. Johnson, Fairmount, W. Va.
38 Nystagmus Produced by Galvanism of Individual Semicirc Canals. L. M. Hubby, New York.
39 Case of Fibro-Angioma of Tongue. D MacFarlan, Phi delphia.
40 New Instruments. J. J. Sullivan, Scranton, Pa.
41 Probable Tumor of Lung Diagnosed by Upper Bronchos R. H. Johnston, Baltimore.

of the cases the anesthesia was complete, in 10 per cent. it was a failure, and in the other 10 per cent. although the anesthesia was incomplete, it was sufficient for the operation.

Journal of Obstetrics and Gynecology of British Empire, London

January, I, XXIII, No. 1-64

10 Burton ("Dr. Slop"): His Forceps and His Foes. A. Doran.
11 *Duplication of Bladder, Vagina and Vulva, with Successive Full-Time Pregnancy and Labor in Each Uterus. J. E. Gemmell and A. M. Paterson.
12 Hebosteotomy. A. J. Wallace.

11. **Duplication of Pelvic Structures.**—The salient features of this case are: a single anus and rectum; duplication of vulva, urinary and genital ducts, bladder and uterus; wide separation of the pubic bones; and the absence of a true umbilicus. The distance between the anterior superior spines of the ilium was eleven inches. There was no symphysis pubis. On palpation in the groin, on each side, Poupart's ligament, pubic spine, pubic crest and separated pubic symphysis could be felt distinctly. The distance between the two pubic bones measured 5⅞ inches. The curve of the sacrum and coccyx and their relation to the spine of the ischium on the left side, formed an almost normal shape of the left half of the pelvis; whereas the right half was merely a large roomy basin. There was no mons veneris. The interval between the thighs formed a perineal space 4 inches in diameter. The vulvar area was roughly heart-shaped with the apex directed backward to the cleft between the nates. The anterior portions of this area, covered sparsely by hair, encroached on the area covering the pubic bones on each side of a bare area devoid of hair and sweat glands.

When the patient was placed in the pelvic position, with knees drawn up on the abdomen, and the soles of the feet resting on the bed, the distance between the folds of the groin was found to be 6½ inches; and the presence was noted of two separate laterally placed vulvae, with a single anus (behind the left vulva), and a natal cleft behind the anus. The vulvae were almost normal in size and form. Labia majora were present. The medial labium on each side was less prominent than the lateral labium; within each vulva were labia minora, clitoris, vestibule and the openings of urethra and vagina. The ostia vaginae readily admitted two fingers and were three inches apart. In 1910, when the patient was first seen, each vagina showed the remains of a hymen. The labia majora and toris were not so well formed on the right side as on the left. ind the left vulva were the perineum and anus. Bimanual mination showed on each side, besides a normal vagina, a vell-formed cervix and uterus, which could be moved freely, independently of one another. A single ovary could be felt at the outer side of each uterus. The urethrae were apparently ormal; on passing a catheter six ounces of clear urine were rawn off by the left urethra. A catheter passed through the ight urethra drew off four ounces of turbid urine containing us.

In the area between and anterior to the two vulvae, opposite the separated pubic bones, the following facts were observed. he area of skin was devoid of both hair and sweat glands. n palpation it was found to consist solely of thin skin cover- g a hole, beneath which abdominal viscera could be palpated. he margin of this vacuity in the abdominal wall presented a ickened clearly demarcated border, bounding a circular open- g beneath the skin about 1½ inches in diameter. All round he opening the aponeurotic covering of the abdominal wall as thick and resistant, particularly behind it, where it formed dense broad band stretching across between the pubic bones, front of and between the vulvae. In relation to the anterior rder of this space, and a little to the right of the middle e, the skin was drawn up into a puckered, somewhat stellate, ised cicatrix, about an inch in diameter. The authors sug- st that this area comprises the umbilical area; that there s been no allantois or proper umbilical cord; that the fetal lly-wall was in contact with the placenta, and that at birth orifice was ligatured and the thin skin drawn over it to er it, and complete the body-wall. The stellate cicatrix resents a pseudo-umbilicus and the closure of the fetal body ity at its junction with the placenta.

Journal of Tropical Medicine and Hygiene, London

February 15, XVI, No. 4, pp. 49-64

13 Indian Oropharyngeal Leishmaniasis. A. Castellani.
14 Identity of Certain Leishmaniases Based on Biologic Reactions. I. Bandi.
15 Case of Paramelitensis Fever. P. W. Bassett-Smith.

Lancet, London

February 22, I, No. 4669, pp. 507-582

16 The Hunter Museum and Lister. R. J. Godlee.
17 *Transmission to Monkeys of Virus Obtained from English Cases of Poliomyelitis. J. McIntosh and H. Turnbull.
18 Two Cases of Pancreatic Cyst. W. F. Cholmeley.
19 Two Cases of Pancreatic Cyst with Acute Symptoms. C. Frankau.
20 Large Renal Calculus Associated with Sarcoma of Kidney. D. Drew.
21 Case of Bence-Jones Proteinuria. J. Henderson.
22 Ptomain Producing Bacteria in Human Intestinal Flora. D. M. Bertrand and A. Berthelot.
23 Therapeutic Action of Splenic Extract. H. R. Harrower.

17. **Transmission of Poliomyelitis.**—This paper deals with the inoculation into monkeys of material from four cases of poliomyelitis which with one exception occurred in the London Hospital district. In every instance the monkeys were inoculated intradurally as well as intraperitoneally with emulsions of the cord. Pieces of the spinal cord and brain were on their removal from the body transferred to a bottle containing a 33 per cent. solution of glycerin in saline and were kept in the ice chamber till required. For the inoculation of a monkey about 1 gm. of cord was placed in a conical glass, cut into as small pieces as possible with a pair of scissors, pounded up with a glass rod, and finally rubbed up with about 6 c.c. of saline. The larger particles were allowed to settle, and then the emulsion was drawn into a syringe. In practice it was found better to use a 10 c.c. record syringe for the intraperitoneal injection, and a 0.5 c.c. syringe with a finer needle for the intradural inoculation. Under an anesthetic (ether) a small incision about ¼ inch long was made down to the periosteum just above the superciliary ridge and just outside the middle line. A small hole was then made with a drill (diameter 2 mm.), a fine needle introduced, and 0.5 c.c of the emulsion injected. At the same time 4 to 5 c.c. of the emulsion were injected into the peritoneum.

The clinical histories and pathologic reports of the cases from which the material for inoculation was obtained are detailed. The authors suggest that in sporadic cases the virus is feeble, and the occurrence of the disease is due to a hypersusceptibility of the individual attacked, while an epidemic only results when the virus has become exalted either by a series of passages through susceptible individuals or from some other cause unknown.

Annales de l'Institut Pasteur, Paris

January, XXVII, No. 1, pp. 1-96

24 Manganese in the Organs of Animals. G. Bertrand and F. Medigreceanu. See Editorial March 1, 1913, p. 674.
25 *Experimental Arteriosclerosis. (Recherches sur l'athérome aortique.) (Recherches sur la pathogénie des altérations artério-scléreuses.) Y. Manouelian.
26 Inhibiting Influence of Peptone on Coagulation. (Etude de l'immunité contre l'action anticoagulante de la peptone.) E. and M. Pozerski. To be continued.
27 Filariasis in Native Troops in the Senegal. (Etudes morphologiques sur les microfilaires à gaine—Mf. Bancroft et Mf. diurna.) H. Foley.
28 Staphylococci in Stools. I. Schiller.
29 Influence of Diet on Formation of Indol in Rabbits. D. M. Bertrand.
30 Toxic Action of Guinea-Pig Serum in Contact with Kaolin. S. Mutermilch.

25. **Experimental Arteriosclerosis.**—Manouelian found that the aorta showed lesions of arteriosclerosis after repeated injections of filtrates or emulsions of cultures of staphylococci in rabbits and monkeys. This occurred regularly in 84 per cent. of the rabbits and in five of the six monkeys. He found further that injury of the nerves was always followed by arteriosclerosis in the vessels innervated, the lesions closely resembling those of arteriosclerosis in man. He found in dogs a nerve fiber passing from the solar plexus and the secondary plexuses beyond to the abdominal aorta, on a level with the

origin of the left renal artery. He tore out this nerve fiber between two clamps or performed a similar operation on a nerve fiber passing to the pulmonary or femoral artery. The artery with which the nerve fiber in question was connected developed isolated lesions closely resembling those of arteriosclerosis in man. The data here presented suggest that the nervous system plays more of a part in the development of arteriosclerosis than has hitherto been realized.

Bulletin de l'Acadēmie de Médecine, Paris

February 11, LXXVII, No. 6, pp. 85-108

31 Cultivation in Vitro of Spinal Ganglia. (Sur le rajeunissement des cultures de ganglions spinaux.) G. Marinesco and J. Minea.
32 *Ankylosis of the Jaw. (L'ankylose temporo-maxillaire étudiée au point de vue du diagnostic.) E. Kirmisson.
33 Bacteriologic Factor in Precipitation of Uric Acid. (Sur un mode de précipitation de l'acide urique.) V. Galippe.

32. **To Determine Whether Ankylosis of the Jaw is Unilateral.**—Kirmisson has often found it difficult to ascertain whether both sides were affected in case of pronounced ankylosis of the jaw. He has obtained useful information from the fact that the lower jaw can be moved sideways, when it is impossible to open the jaws, if the lesion is on one side only. If the ankylosis is bilateral, the patient will be unable to move the jaw in any direction. Another sign of unilateral ankylosis is that the cheek on the affected side seems more rounded than on the sound side. This paradoxical phenomenon is due to the fact that the bone support on the side of the ankylosis is more or less atrophied, so that the soft parts developing normally are squeezed into prominence, as it were. On the sound side, the bone being normal, the soft parts stretch normally over them and thus *appear sunken in comparison with the bulging* soft parts on the side of the ankylosis.

Lyon Médical, Lyons

February 9, XLV, No. 6, pp. 265-328

34 Meningococcus Septicemia and Meningitis in Young Man with Joint and Visceral Lesions from Inherited Syphilis. P. Courmont and J. Froment.

Presse Médicale, Paris

February 12, XXI, No. 13, pp. 121-128

35 Hemolytic Properties of Organ Extracts. C. Achard, C. Foix and H. Salin.

Revue de Chirurgie, Paris

February 10, XXXIII, No. 2, pp. 137-291

36 *Prevention of Injury of Nerve in Operating on the Elbow. (Des rapports de la branche motrice du nerf radial avec l'articulation radio-humérale, envisagés au point de vue de la chirurgie opératoire du coude.) O. Jacob.
37 *Fractures of the Ankle. (Sur la disjonction tibio-péronière et les fractures du cou-de-pied. Essai de classification.) Clermont.
38 *Participation of Thyroid in General Diseases. (Sur les altérations du corps thyroïde dans différents états expérimentaux et cliniques.) E. Martini.
39 Retrograde Invagination of the Intestine. A. Catz.

36. **Prevention of Postoperative Paralysis of the Radial Nerve.**—Jacob has encountered three cases of paralysis of the extensor and abductor muscles of the hand consecutive to an operation on the elbow. He gives an illustrated description of the exact anatomy of the region as observed in two cases, showing the best means for avoiding injury of the motor branch of the radial nerve in operating on the elbow.

37. **Fracture of the Ankle.**—Clermont strives to classify the various forms of fracture of the ankle with separation of the tibia and fibula, what he calls *disjonction tibio-péronière.* His study is accompanied by ten illustrations in the text and ten Roentgen-ray pictures.

38. **Secondary Changes in the Thyroid.**—Martini examined the thyroid in a number of dogs after removal of the adrenals, testicles, ovary or pancreas or after splenectomy or nephrectomy. None of these operations seemed to affect the structure or function of the thyroid as none of them led to the production of toxins to any appreciable extent. He has also made a careful study of the thyroid in ten persons who had died of pneumonia, ten others from typhoid, ten consumptives and ten cancer cadavers. He also reviews research in this line by others. The data presented confirm the part played by the thyroid as a protecting organ with a power to neutralize toxins. The reaction in the thyroid to the invasion by any infection varies in different cases. In acute diseases its reaction is characterized by excessive functioning which aims to neutralize the invading material circulating in the blood and facilitate its elimination. In chronic disease the continuous irritation from the toxins finally changes the structure and the secretion of the thyroid, modifying it more or less according to the intensity of the toxin production. The thyroid takes thus an active part in the defense of the organism, but if the struggle is long continued the thyroid becomes exhausted and shows signs of retrogression processes.

Semaine Médicale, Paris

February 12, XXXIII, No. 7, pp. 73-84

40 *Osteoma in Front of Hip-Joint; Five Cases. (Les ostéomes pré-coxaux.) F. Lejars.

40. **Osteoma in the Thigh.**—Lejars has encountered five cases of pathologic bone growth in front of the hip-joint. They deceptively simulated sarcomas but there was nothing malignant about the growths. They all had a history of traumatic injury at this point from two to four years before. After a period of insidious development, the tumor had suddenly increased in size and caused pain in moving the limb. In each of the cases he restored conditions approximately to normal by removing the exuberant bone growth with chisel and mallet. The resection should be as complete as possible to free the joint below and prevent new bone growth from relics left. *He gives an illustrated description of the more typical* cases; in one the patient was a man of 50 and the upper third of the thigh was twice the natural size. He had broken the femur at this point two years before but the progressive development of the tumor had only been noticed the last two months.

Archiv für klinische Chirurgie, Berlin

C, No. 3, pp. 597-938. Last indexed March 1, p. 702

41 *Operations on Posterior Cranial Fossa. (Zur Chirurgie der hinteren Schädelgrube.) O. Hildebrand.
42 Idiopathic Dilatation of the Esophagus. (Kasuistik und Therapie der Speiseröhre. Oesophagogastroanastomose.) H. Heyrovsky.
43 *Cancer of the Esophagus from the Standpoint of Thorack Surgery of Human Beings. (Der Oesophaguskrebs vom Standpunkt der thorakalen Chirurgie.) Willy Meyer (New York).
44 *Multiple Progressive Ossifying Myositis. (Hyperplasia fascialis ossificans multiplex.) S. Goto.
45 *Fistulas and Cysts in the Neck. (Halsfisteln und Cysten.) R. Wenglowski.
46 Implantation of Renal Vein in Vena Cava in Case of Operati or Other Injury. (Ueber Neoimplantation der Vena ca zugleich ein Beitrag zur Technik der Gefässanastom End-zu-Seit.) E. Jeger and W. Israel.
47 Operative Treatment of Injury of Duodenum from Contusi W. Röpke.

41. **Operations on Posterior Cranial Fossa.**—Hildebr devotes 106 pages and four colored plates to the deta description of his fifty-one operations of this kind and to lessons learned therefrom. Twenty of the patients died during or soon after the operation, but in all but four of these the lesion had been found absolutely inoperable. Only twenty-four of the remaining thirty-one were really operable cases. Twent two patients survived for more than three months afterwa The benefit derived from the operation, even in the hopeless doomed cases, was great. In a large number choked d retrogressed, thus restoring normal vision where the atro of the optic nerve was not irreparable. This group of ca in which although the choked disk retrogressed yet vision irreparably lost, teaches the imperative importance of op ing early, before such changes become installed. As the d nosis in the early stages is often dubious, an exploratory op tion to render the diagnosis certain is the only means to such patients from blindness at least and possibly from de Hildebrand has long preached the necessity for early expl tory trephining on even suspicion of a lesion [illegible] the poste cranial fossa. Even if the ex [illegible] ory [illegible] should

sionally hasten by days or weeks the inevitable fatal outcome, this should not be weighed in the balance against the exploratory operation, as the patients are already great sufferers. On the other hand, the earlier the exploratory operation is done the less danger connected with it. In his six cases of serous meningitis great benefit was the invariable rule, and the patients are still living in good health or succumbed a few years later to intercurrent disease. The five patients with internal hydrocephalus all recovered and one is in good health five and a half years since, but is blind; another died five weeks after the operation from tuberculous meningitis. One of the five patients with cysts in the cerebellum died at the operation; the cyst communicated with the fourth ventricle. The others were cured. Of the five with solid cerebellar tumors, two are living in good health and two died at the operation. The tumor was not discovered in the fifth case and the patient died from its effects six months later.

43. **Cancer of the Esophagus.**—See The Journal, July 2 and July 9, 1910, pp. 46 and 164.

44. **Ossifying Myositis.**—Goto's study of the pathologic anatomy of the course of this affection in a clinical case described in detail confirms the assumption that this form of myositis is not of an inflammatory or neoplastic nature. It seems to be the result of some congenital but not hereditary defect in the differentiation of the connective-tissue elements. There is first hyperplasia of the connective tissue, then fibrous induration, and finally ossification. Trauma seems to afford a local predisposition but the local changes can develop without this. The article fills over 57 pages and has nineteen illustrations in the text.

45. **Fistulas and Cysts in the Neck.**—A bibliography of 396 articles on the subject concludes Wenglowski's long article of which the 104 pages devoted to it in this *Archiv* is only the last half. It is accompanied by thirty illustrations in the text.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXVI, No. 1, pp. 1-121. Last indexed February 22, p. 632

48 *Clinical Importance of Reaction to Tuberculin Salve; 500 Cases. (Ueber die klinische Bedeutung der Moroschen Tuberkulinreaktion—auf Grund von 500 eigenen Beobachtungen.) K. Dluski and S. Rudzki.
 *Artificial Pneumothorax: Thirteen Cases: Necropsy Findings in Four. (Einige Erfahrungen mit künstlichem Pneumothorax.) A. A. H. van den Bergh and Others.
50 *Influence of Gestation on Pulmonary Tuberculosis. (Einfluss der Generationsvorgänge auf die Lungentuberkulose.) W. Köhne.
51 Research on the Local Tuberculin Reactions. (Einige Untersuchungen über die klinische Anwendbarkeit der lokalen Tuberkulinreaktionen.) K. Andersen.

48. **Tuberculin Salve Reaction.**—Dluski and Rudzki report e application of Moro's technic in 500 cases of tuberculosis d also on a large number of healthy controls. They followed oro's directions with care, rubbing a piece of the salve about e size of a pea on the skin over the stomach below the siform appendix or near the nipple. The salve is made of .c. Old tuberculin and 5 gm. lanolin, and is put up in 2 gm. es. The reaction is specific, but a negative response was obtained in 33 per cent. of the cases of certain tuberculosis. The positive responses grow less numerous with increasing age. The test is more important for prognosis than for diagnosis, egative findings with certain tuberculosis being a very unfaorable sign. The more pronounced the reaction the better e prospects for recovery. The salve test is particularly usel for control of tuberculin treatment.

49. **Artificial Pneumothorax.**—The great danger with this cedure is said to be that some minute focus on the other may be whipped up by it, and the tuberculous lesion may ead rapidly. This occurred in some of the cases reported; two it was confirmed by necropsy To date it seems imposle to determine beforehand which patients will derive great efit from the compression of the tuberculous lung by this ans and which patients will have their mild tuberculous cess in the other lung whipped up to a rapidly fatal course. the present, therefore, it seems necessary to restrict the lication of the method to cases of serious pulmonary processes limited almost entirely to one lung and progressing under conservative measures.

50. **Influence of Gestation on Pulmonary Tuberculosis.**—Köhne's experience has been that when the tuberculous process has displayed a tendency to shrivel up, this tendency is generally enhanced by a pregnancy, and the latter may even inaugurate it. In comparatively few tuberculous women are the effects of a pregnancy disastrous. But he warns that tuberculous women should never be allowed to nurse their children, and that all pregnant tuberculous women should be given the benefit of sanatorium treatment. These conclusions are based on twenty-nine cases with a record of eighty-eight childbirths. In sixteen of the twenty-two cases in which the women were under constant medical care, the condition actually improved during and after the pregnancy, but in the five other cases an injurious influence was manifest. The tuberculosis was not of a mild form in any instance.

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52 *Cancer Induced in Rats by Feeding with Parasites of Cockroaches. (Ueber eine durch Nematoden—Spiroptera sp. n.—hervorgerufene papillomatöse und carcinomatöse Geschwulstbildung im Magen der Ratte.) J. Fibiger.
53 Deforming Arthritis Result of Necrosis of Cartilage. (Wesen der Arthritis deformans.) G. Axhausen.
54 Examination of Stools for Ova. (Zur Fäcesuntersuchung auf Parasiteneier.) F. Wolff.
55 *Therapeutic Artificial Pneumothorax. E. Aron.
56 Anaphylaxis to Gastric Juice. (Magensaftanaphylaxie.) E. Manoiloff.
57 Treatment of Ankylosis of the Ankle. (Zur Behandlung versteifter Fussgelenke.) E. Weiz.
58 Durable Bacteriologic Stain. (Ueber einen haltbaren Gramfarbstoff für Gonokokken-, Pilz- und Spirochätenfärbung.) E. Klausner.
59 Vaccine Therapy. A. Wolff-Eisner.

52. **Cancer Induced in Rats by Feeding with Parasites of Cockroaches.**—In 1907 Fibiger discovered a stomach lesion in certain rats and found in it nematodes about 1.6 cm. long by 0.25 mm. in diameter and also ova containing the embryos. The lesions had the appearance of a malignant growth. He found it later in eleven of 1,144 rats examined. Certain circumstances indicated an intermediate host, and his research led to the discovery that this host was the ordinary cockroach, the *Periplaneta americana* or *orientalis.* In another series of sixty-one rats from a large sugar refinery similar nematode worms were found in the stomachs of forty, and in eighteen of these there were morbid changes in the stomach lining and in half of these the lesions were in the form of tumors like those first discovered; in the others the lesions seemed to be the preliminary stages. His further research has apparently confirmed beyond question that the tumors were dependent on the presence of the nematodes and that the ova of these parasites came from the *Periplaneta americana.* He gives an illustrated description of the spontaneous and induced growths and the biology of the parasites. He succeeded in reproducing the cancer by feeding other rats with the intermediate host, the cockroach. The malignant growth is slow in developing and it is probable that a larger proportion of positive experimental results would have been obtained if the rats had not succumbed too soon to intercurrent diseases. He states that in at least two and probably three of the laboratory rats fed with cockroaches, metastases of the induced malignant epithelioma were found in other organs. He remarks that this is the first time any one has succeeded in inducing in healthy animals carcinoma with metastasis.

No parasites or ova were found in the metastases and hence the development of the metastases must be due to a capacity on the part of the epithelium cells of the stomach to develop further, independently, without the help of a parasite, in other organs. It is his impression that all the anatomic changes are the result of the action of the toxins produced by the nematodes. He refers to Borrel's suggestion that parasites, such as the demodex and nematodes, may transmit the unknown virus which produces cancer. He based this assumption on the frequent finding of such parasites in or near cancerous growths. Fibiger adds that his own research shows the results of others in a new light. What has been assumed to be a casual coin-

conveyed by a mosquito was an even more important discovery to tropical America than the discovery of the fact that malaria was conveyed in this way. At the time that Reed announced the discovery of the board of which he was chairman, the United States had control of the sanitation of Havana. Practical methods were here worked out whereby Reed's and Ross' discoveries could be made of practical utility. Unexpected success was accomplished as to both yellow fever and malaria. Within a year yellow fever had disappeared from Havana. For a hundred and fifty years before that time this city had never been free from yellow fever. Malaria disappeared more slowly. But now, after ten years of mosquito work, the deaths from malaria in the city of Havana have dropped from an average of 350 per year to an average of about ten. The success in Havana having been so marked, the United States determined to apply the same principles at Panama. Work was commenced in May, 1904; in May, 1906, the last case of yellow fever occurred on the Isthmus.

The French, with an average force of 10,000 employees, lost from death during their construction period 22,000 men. We, with an average force of 33,000 men during about the same length of time, have lost from death 4,000.

The French, with an average of 1,600 white employees, lost during their construction period from yellow fever 2,000 men. We, with an average of 5,000 white employees during the same length of time, have lost from yellow fever only eighteen. Our maximum of sickness from malaria was in 1906, when we had in hospital from that disease 821 men out of every thousand of our employees. This number has been steadily reduced till the year 1911, when we had only 184 out of every thousand sick in hospital from malaria.

The general health conditions of the whole community are about those of a healthy community in the United States. The death-rate of the Zone, including the cities of Panama and Colon, for the years 1911, was 21 per thousand.

But what I wish to emphasize particularly is the health condition of the American employees of the commission. During the year 1911 we had 10,489 American whites connected with the commission. Their death-rate from disease was 4.48 per thousand. Of these 10,489 Americans, 6,025 were men and 4,464 women and children. The death-rate from disease among the men was 2.82 per thousand. That among the women and children from the same cause was 6.72 per thousand. I think a still better way of satisfying oneself with regard to health conditions is direct observation of the American employees. They as a class are rugged and healthy-looking, of good color, and energetic and active in movement. They look more like the farmer and his family of the northwest than like people who have lived in the tropics for four or five years.

It is an established fact that always in the past the Caucasian has wilted and died in the tropics. He has found it almost impossible to rear his children under these conditions, and when he has survived, a degenerate race has resulted. But here at Panama a force of 10,000 Caucasians has lived for the past six years in as good health as similar people live in the healthful parts of the United States. Bear in mind, at the same time, that not only is Panama located in the most tropical portion of the tropics, but by universal consent it has been known as the most unhealthful location in all the tropics. It has borne this reputation for the past four hundred years. For four hundred years the Caucasian has tried to live here and use Panama as a crossing-place; but he has found it impossible to do so. The toll in life has been very heavy when he spent in the jungle of the isthmus even the few days that were necessary for the crossing; and when he attempted to stay longer, as with the French under De Lesseps, the loss was appalling. What has made the difference between invalidism and death in the one period, and robust and vigorous health in the other period? The conditions otherwise remain the same. I am satisfied that this unexpected condition of the American population is due solely to the fact that the American authorities have protected them from the infections of yellow fever and malaria. It seems to me that the effects of this experiment carried out on so large a scale will be far-reaching. The tropics, at present, contain much the largest and most productive portions of the earth's surface. A man's labor in the tropics will bring him in many times the returns that the same amount of labor will produce in the temperate zone. Heretofore he has been kept out of these regions by his sad experiences with regard to the health conditions. Panama is conspicuous as having been known as the most unhealthful place in the world, and also as having had carried into execution within its borders the greatest construction feat man has ever undertaken. It will at once be evident that if the white man can live, work and rear a family under these conditions at Panama, the same can be done in any other part of the tropics. And the tendency will be for man to emigrate, other things being equal, to those parts of the world where he can get the largest return for his labor. The great centers of civilization will develop in these regions, other conditions being the same, where man's labor applied to natural opportunities produces the greatest return, for the reason that under these conditions a greater proportion of the population can turn its attention to the arts, sciences, music, letters and other walks of life that have a softening and civilizing tendency.

I believe, then, that our sanitary work at Panama will be remembered as the event which demonstrated to the white man that he could live in perfectly good health in the tropics; that from this period will be dated the beginning of the great white civilizations in these regions; and that again great tropical empires will be known, such as existed in the early history of man—such as Egypt, Babylon and Nineveh. I hope that the sanitary work at Panama will be remembered as having taught the white man that these things are possible.

Reports have gone out from the Isthmus, both from those in authority and from newspaper writers, to the effect that sanitation has been very expensive; that when the work shall have been finished, sanitation will have cost 5 per cent. of the total expense. This comes about from getting the expenses of the sanitary department confounded with those of sanitation. The sanitary department spends a good deal of money that has no relation whatever to sanitation; for instance, more than half the revenues of the sanitary department are spent on hospitals, dispensaries, etc., things which have no relation whatever to sanitation. It is just as misleading to call such things on the Isthmus "sanitation" as it would be here in Baltimore to charge to the health department the expenses of all hospitals and dispensaries and the incomes of the physicians and nurses. If this were done, the expenses of the Health Department of Baltimore would amount to a very large percentage of the total expense of the city government. As a matter of fact, the sanitation on the Isthmus has cost us about $400,000 per annum. This is a little more than 1 cent per day per capita for the total population; and when we are through, we shall have spent on sanitation about $4,000,000 instead of $20,000,000, as has been stated, 1 per cent. of the total cost of the canal instead of 5 per cent.

I am anxious to have this misunderstanding corrected because the matter has a far wider application than to our local affairs on the Isthmus. If we hope that our work is going to be of assistance to other tropical countries, we must show that the expenses of sanitation are within the limits of their financial ability. If the South American governments are told that it has cost the American government $20,000,000 for the sanitation of this small territory of 500 square miles on the Isthmus for ten years, they will all see at once that a similar work for themselves would be entirely beyond their financial ability. But if they are informed that it has cost the Americans a little more than a cent a day per capita for the work, they will know that they are financially able to do the same. This can certainly be done by all these countries, as far as their larger and infected cities are concerned. As it is a matter that may be of great use to our tropical neighbors, both north and south of Panama, I make no apologies for bringing it up on this occasion.

GUNSHOT WOUNDS OF THE ABDOMEN[*]

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The greater relative frequency of gunshot wounds of the abdomen in civil practice than in military practice is explicable by the closer range, and by the more accurate aim of the assailant in civil life. Younge[1] reports 1,053 rifle-ball wounds occurring in the Boer War, of which 92 (9 per cent.) were of the head, 85 (8 per cent.) of the chest and 66 (6 per cent.) of the abdomen. My own experience, limited to civil practice, consists of 41 cases, of which 13 (31 per cent.) were of the head, 8 (19 per cent.) of the chest and 13 (31 per cent.) of the abdomen.

The wound of entry is usually to be found in the anterior or lateral aspect of the abdomen, though the bullet may enter from the back, and not infrequently bullet wounds of the chest also penetrate the abdomen. Two patients in this series were shot in the back, one dying of hemorrhage before reaching the hospital, the result of damage done by a 0.44-caliber bullet. In three patients shot in the chest, the abdomen was also involved. Blundering cases of abdominal involvement when the wound of entry shows in the thorax may be avoided by ascertaining the approximate angle at which the bullet entered, the posture of the victim at the time the shot was fired and by bearing in mind the anatomy of the region probably traversed.

A boy, aged 11, while on the ground, was homicidally shot by a companion with a 0.22-caliber rifle, from the top of a 15-foot barn at a distance of about 70 feet, thus giving a marked downward course to the projectile. The wound of entry was in the seventh left interspace in the mammary line. There was no wound of exit. This patient was seen in consultation thirty-one hours post-trauma, at which time he had a pulse of 140; axillary temperature 102.4; costal respiration 60; a greatly distended and tender abdomen; dulness in both flanks; liver dulness elevated; leaky skin; hippocratic facies, and constant vomiting. Enemas had brought some blood. Operation was, of course, not undertaken, and he died forty-eight hours post trauma. An autopsy was not permitted.

A greater number of perforations may be expected if the bullet traverses the abdomen transversely or obliquely than if its direction be anteroposterior.

The more one sees of shot cases the less dogmatic does one become in asserting that any given portion of the body is not involved, irrespective of its remoteness from the wound of entry. Distant organs not even suggested by the wound, the history of the accident or by the early symptoms sometimes lodge a bullet. Such a case I well remember because it proved so chagrining. It is worthy of report, not only as illustrative of the preceding statement, but also on account of its rarity.

A boy, aged 10, was accidentally shot with a 0.22-caliber rifle by his brother at a distance of about 100 feet. They were walking on level ground. The bullet entered the external aspect of the right thigh at its middle third. There was no wound of exit. The wound was cleansed and dressed, and the parents told to bring the boy to the office in a few days. On the third day I was summoned, as the boy complained of intense abdominal pain and inability to defecate. Imagine my surprise, when on arrival, the boy was found dying of peritonitis. Death occurred eighty-two hours post trauma.

It should have been of extreme interest to ascertain the path of the bullet, but as an autopsy was not allowed, the mode of its entry to the abdomen will remain forever unknown. Had the patient been in the hospital, the early signs of abdominal involvement would probably have been noted and the boy given at least a chance for his life, whereas he was in an adjoining town without care—a fact which merely emphasizes the importance of having all cases under trained supervision.

After entering the abdomen bullets traverse that cavity in the straight line of their projection. The posture of the victim at the time of accident and the mobility and contractility of certain viscera will explain the manner in which organs are wounded which lie outside the apparent line of transit when the patient is supine on the operating-table. Though the theory is held by some men of repute, I am unwilling to concede that the soft tissues occupying the abdominal cavity are capable of deflecting a bullet.

It is universally asserted that by reason of the comparative innocuousness of the gastric and upper intestinal contents as contrasted with the bacteria-laden contents of the lower bowel, wounds of the upper abdomen are attended with a lower mortality than are those of the lower abdomen. On account of the abundant lymph channels in the upper abdomen, thus permitting very speedy absorption, as evidenced by the rapidity with which death succeeds the unoperated gastric ulcer perforations and other infective processes of the upper abdomen, and because of the considerable chance of profuse hemorrhage from the liver, spleen, kidneys or large vascular trunks, I am convinced that this statement is without substantial foundation. The following case report is pertinent:

A man, aged 51, was homicidally shot shortly after dinner with a 0.32-caliber, soft-nosed, steel-jacketed bullet at a distance of a few feet. The wound of entry was 2 inches above and a half inch to the right of the umbilicus. The wound of exit was half an inch anterior to the left posterior axillary line and 2¼ inches above the iliac crest. He was operated on four hours post trauma. A median incision disclosed the abdomen filled with blood, stomach contents and feces. There appeared a 2-inch lacerated wound of the lower border of the liver, which was bleeding but slightly, one wound of the small intestine, two stomach wounds, one anterior and one posterior admitting four fingers, three in the colon and eight in the mesentery. Extreme laceration with ragged edges characterized all wounds and was doubtless due to the explosive effect of the high-velocity bullet which has a penetrating power of 7 inches of solid pine. After repair and careful sponging, suitable drainage was provided. The pulse and temperature steadily rose till death occurred, eighteen hours after the operation. The autopsy showed all sutures holding; the hollow viscera were air-tight and there were no fluid in the abdomen and no macroscopic evidence of peritonitis. It was considered that death was due to toxemia, and that the absorption had been so rapid as not to have permitted the development of the gross lesions of peritonitis usually encountered.

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[*] Read before the Western Surgical Association, Dec. 20, 1912.

[1] Younge: Jour. Royal Army Med. Corps, August, 1904.

Army surgeons seem to have shown statistically that a greater number of gunshot wounds of the abdomen in war are recovered from under non-operative treatment than under operative treatment. Several factors which do not obtain to so great an extent in civil life contribute to the high mortality of operative cases in war, such as: (*a*) the long time taken to transport the injured, thus making for late operations; (*b*) the various and often jolting means of transport, and (*c*) the poor conditions frequently surrounding the operation. Moreover, I feel that their statistics are delusive, for doubtless many patients die on the battle-field and during transportation whose cases do not adorn the statistics.

Penetration is not always accompanied by visceral injury, as evidenced by the reports of several cases in the literature, and by the following case of my own:

A man, aged 32, was shot with a 0.38-caliber bullet in the abdomen 2 inches to the left and 1 inch above the umbilicus. The wound of exit was 2 inches to the left of the spine on a level with the anterior wound. Operation was refused, orders wantonly disobeyed, and yet a symptomless recovery ensued.

Nevertheless, in every case of penetration of the abdomen by a bullet, multiple perforations of the viscera are to be assumed, and prompt surgical exploration is demanded.

The symptoms usually mentioned are not the symptoms of perforation, but are signs of hemorrhage or peritonitis and in the ordinary case are not to be awaited. By the ordinary case is meant one which shows a wound of entry to the abdomen. The occasions when there is apt to be difficulty in deciding the treatment will arise from an uncertain diagnosis; when the wound of entry is so placed as not to indicate clearly whether or not the abdominal cavity has been invaded. For instance, gunshot wounds of the back or thorax without a wound of exit may perforate any of the organs of the abdomen. In such a case one would necessarily rely on symptoms, the more so if the history of the case were defective so one could not reasonably be led to any deduction. Hemorrhosis, hematuria, hematemesis, tympany, gas in the abdominal cavity, shock, rapid pulse, pain, muscular rigidity, etc., are then signs of the greatest significance, particularly the pain and rigidity. Given such a case with indications of probable involvement of the abdomen, symptoms, which as previously mentioned signify either peritonitis or hemorrhage, should not be waited for, but the operation should be proceeded with at once.

The site of the incision may occasionally, if the wounds of entry and of exit are both at one side, be placed laterally; though usually, in order that the entire intestinal tract may the more easily be examined, the median incision is indicated.

Needlessly long incisions, evisceration, rough handling of the intestine and long exposure are to be condemned. Much time may be wasted, however, by attempting a thorough search through an insufficient aperture; therefore I always have an opening sufficiently large to permit rapid work, regardless of its length. Also, while disapproving unnecessary evisceration, yet in the presence of an abdomen full of blood, I do not hesitate to turn out intestines abundantly, to expedite finding the source of the hemorrhage, which I think should first be checked if profuse, and the intestinal perforations, from which contents may effuse, attended to after the bleeding has been controlled. This is at variance with the advice often promulgated, some maintaining that while searching for the bleeding point more intestinal contents may be expelled by manipulation, thus enhancing the danger of infection. I am convinced that this is an exaggerated danger, for if the bowels are treated with the gentleness which should characterize their handling, then the tonically contracted intestine remains *in statu quo,* which is Nature's own device to prevent expression of contents. Moreover, if the intestines be outside the abdominal cavity, as they sometimes are, the objection does not hold. Further, even though there were to be some discharge from the intestine openings, in the presence of a copious hemorrhage, the danger of increased peritoneal soiling is of less importance than the danger of immediate death from hemorrhage, and the method advocated is the proper one to pursue. Should there be but inconsiderable bleeding, there manifestly is no occasion to search for its origin, but repair of the intestinal wounds should be proceeded with methodically, and the bleeding will likely have ceased by the time the several wounds have been repaired. If hemorrhage is profuse one may be confident that its source is to be found elsewhere than in the hollow viscera, and the search should without delay be directed, as suggested by the line of transit, to the solid viscera, mesentery, omentum or large vessels.

Wounds of the urinary bladder and gall-bladder permit immediate extravasation, as do large wounds of the stomach, whereas most shot wounds of the intestine will show little or no extravasation during the early hours following injury by reason of the tonic contraction.

Wounds of the liver and spleen are dangerous primarily on account of hemorrhage. Hepatic bleeding is usually controllable by catgut sutures, or rarely tape sutures may be necessary. Hemorrhage from the spleen is more difficult to control. Packing or suture may be tried, but if these measures fail one need not hesitate to perform splenectomy, as the results of this operation have been very satisfactory.

Wounds of the kidney may, if the renal vessels have been severed, or if great destruction of the kidney substance has been inflicted, require nephrectomy. Lesser wounds of the kidney, and injury to the pelvis or ureter require suturing, and in all cases efficient drainage through the loin should be provided.

Wounds of the pancreas are always accompanied by injuries of other viscera; their management is difficult and consequently they present a high mortality. They should be packed and provided with abundant posterior drainage, even if anterior drainage is also supplied.

Wounds of the stomach or intestine may show only a single opening, which can happen if the bullet perforates at or near the apex of a fold, though usually there are two, one of entry and one of exit; so it is a safe rule to search for an even number of holes in the hollow viscera. Should there be difficulty in finding the posterior opening in the stomach, or should there be doubt as to its existence, a simple means of determination is suggested by Martin.[2] A purse-string suture is introduced about the anterior wound as for closing, and a rubber tube inserted, when the purse-string is tightened about the tube. Salt solution is then introduced into the stomach through the tube, and should a posterior opening exist, the solution escaping into the lesser peritoneal cavity would readily announce the fact. As Martin says, the disadvantage of washing out the gastric contents, thus further contaminating the lesser sac, is outweighed by the manifest advantage of knowing whether or not there is a second opening. I think, however, that this expedient would be a rare requisite. The possibility of having single openings, as mentioned, is well illustrated by the following case which presented two such injuries, thus still adhering to the general rule of having an even number of perforations:

A boy, aged 13, accidentally shot with a 0.22-caliber rifle, was seen in consultation with Dr. J. A. Jeannotte, six hours after the accident. The bullet entered 1½ inches below and 1 inch to the left of the umbilicus. The wound of exit was 1¾ inches below and 1 inch posterior to the posterior superior spine of the ilium, and 1¼ inches to the right of the median line. He presented all the signs of internal hemorrhage, with a pulse of 140. He was operated on seven hours post trauma. A long median incision disclosed an abdomen full of blood and a small amount of semifluid feces. Most of the small intestine was hastily rolled out, the blood scooped out with the hands and the abdomen sponged so as to discover the source of the hemorrhage, which was found to be three perforations of the mesentery. These were sewed up, and afterward fourteen perforations of the small intestine, two of which were single, i. e., the bullet had caught the apex of a fold and made a rather long opening as compared with the others, in two different portions of the intestine. The intestine, being outside, was washed clean of feces before being returned. The abdominal cavity was sponged dry and the incision sutured, leaving an opening at the lower angle from which a drain to the pelvis protruded. The Fowler position was maintained for three days. Recovery was slow but uncomplicated.

Trimming the bruised edges of intestinal wounds, as advised by some, I deem unnecessary, as it requires time, which may be of great import. Moreover, these edges are easily infolded, and if reasonable care be exercised that the stitches penetrate healthy tissue, there need be no feeling of insecurity. A word of caution may not be amiss: as previously mentioned, in all shot cases of the intestine seen early, the intestine will be found in a state of spasticity, resembling in size the small intestine of a dog. It is important therefore to be careful in suturing the openings that not too much tissue be infolded, as the bite of the suture is apt to be much deeper in the contracted bowel than the inexperienced intends or realizes. Bearing the fact in mind and exercising ordinary caution will guard against this danger.

It would seem hardly necessary to insist on thorough exploration of all the abdominal viscera, but not a few cases are on record which hav been lost by overlooking a distant perforation which resulted in a fatal peritonitis. It is well also to look for more than one bullet wound, as a second one will occasionally be found. In some pistol fights the combatants mean to kill, more than one shot is fired and not infrequently two bullets find their target.

Whether or not to drain should be determined by the general principles which govern drainage in all abdominal conditions. If there has been but little peritoneal soiling and there is no oozing, I think it is better to close up tight. If there is considerable oozing, or if there has been extensive peritoneal soiling, then drainage is indicated. If in doubt it is safer to drain.

As stated in the beginning, there were thirteen cases in this series: seven patients were operated on and six were not. With the exception of the one who refused operation and recovered—a hundred-to-one hazard—the patients not operated on either died of hemorrhage before they could be removed to the hospital, or were moribund when first seen. Ten cases involved only the abdomen, and three involved both the thorax and abdomen. These three patients died. Only one was operated on, when the diaphragmatic, stomach and mesenteric wounds were repaired. The patient died of secondary pulmonary hemorrhage twenty hours after the operation. After the exclusion of this case, which I think is proper as it involved both the thorax and abdomen, and because the thoracic injury was alone responsible for death, six cases of gunshot wound of the abdomen with intestinal perforations are left; all patients were operated on within eight hours of the accident, with one death, a mortality of 17 per cent.

A STUDY OF THE TOXICITY OF THE SALICYLATES BASED ON CLINICAL STATISTICS *

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This study was undertaken with the hope of clearing up some of the traditions concerning the therapeutic use of salicylates. It is believed by some clinicians that certain of the salicylates are not so toxic as others. There is also a common idea that the toxicity is different — either greater or smaller — in rheumatic fever than in other conditions. Other factors which are but vaguely understood are the relation of age, sex and race to the toxic dose of the salicylates, the influence of the dose on the occurrence of albuminuria and idiosyncrasy.

For this study the clinical records of the medical wards of Lakeside Hospital were made available through the courtesy of the medical staff and hospital officials. All of these records have been systematically kept practically since the establishment of the hospital. The fact that they were kept with no definite aim for such an investigation as this helps to insure the complete impartiality of the data.

The records of about four hundred patients were secured, all of whom were aged 16 years or over. The desired information about each patient was briefly abstracted on small cards which were then used in the compilation of the data by the statistical method.

The "median" or "mean" toxicity was calculated by the method of Laplace. As explained by Scripture,[1] this method gives more useful results in biologic statistics than does the ordinary arithmetical average. In determining the median dose, all the doses in a given group are arranged in ascending order, for instance, 45, 60, 60, 140 grains (quantities of Diplosal received by four individuals between 30 and 45 years of age as shown in Table 4). There being four cases, the middle or median dose would be between the second and third of the series, namely 60 and 60. Had there been five doses, the middle value would be the third number, 60. Exactly the same procedure is used, however large the number of cases in a group.

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[2] Martin: Ann. Surg., 1907, xlv, 669.

* From the Pharmacologic Laboratory, Medical School, Western Reserve University, Cleveland.

* This investigati[illegible] was undertaken [illegible] the request and under a grant [illegible] on The[illegible] American [illegible] arch Council Pha[illegible]

1. [illegible]

The chief results of the investigation may be summed up as follows: It has been possible to state definitely what is the mean toxic dose of the different salicylates; that there is practically no difference between the toxicity of the synthetic and natural sodium salicylates and oil of gaultheria (oil of wintergreen), but that apparently there is some difference with Diplosal and aspirin. The toxic dose of the salicylates was not modified by certain factors, such as the black and white races; ranges of ages between 16 and 75 years; male and female sexes (considering the weight), various diseased conditions, and therapeutic response.

I. MEAN TOXIC DOSES OF THE VARIOUS SALICYLATES

In this hospital the routine of administration of the salicylates aims at the attainment of symptoms of intoxication by the drug. That is, the salicylate is given in doses of from 10 to 20 grains every hour until symptoms of intoxication begin to appear, when it is stopped. In this way from 200 to 250 grains would be administered within twenty-four hours. Intoxication is indicated by the appearance of headache, nausea, vomiting, ringing in the ears or deafness, rarely delirium and hallucinations, and sometimes diarrhea. The salicylate is usually given in conjunction with sodium bicarbonate as a prophylactic against acidosis. The urine is regularly examined for the presence of albumin, casts, acetone and diacetic acid.

In the records, the individual toxic symptoms are frequently not enumerated. The phrase "toxic with salicylates" was commonly used, and this has been accepted in lieu of a statement of the train of the symptoms of intoxication.

The results (Table 1) indicate the mean toxic doses of the different salicylates for both sexes. Table 2 shows the relative doses of the preparations for the two sexes.

TABLE 1.—THE MEAN TOXIC DOSES OF THE VARIOUS SALICYLATES

Preparation	Males (Adult)			Females (Adult)		
	Mean Toxic Dose (gr.)	Number of Doses*	Number of Different Individuals	Mean Toxic Dose (gr.)	Number of Doses*	Number of Different Individuals
Synthetic sodium salicylate.	180	317	205	140	203	128
Natural sodium salicylate.	200	9	7	135	8	2
Methyl salicylate (oil of gaultheria).	120†	16	4	120†	19	5
Acetylsalicylic acid (aspirin).	165	4	2	120	13	5
Salicylosalicylic acid (Diplosal).	100	12	5	83	3	1

* Used for calculating the mean. † Minims.

The Relative Toxic Doses for Males and Females.—Expressing the toxic dose for females as percentages of the toxic dose for males gives for synthetic salicylate 78, aspirin 73, oil of gaultheria 100, and Diplosal 83. This shows that the toxic dose of the salicylates is approximately 80 per cent. of that for males, corresponding very well with the average adult difference of weight in the two sexes (Vierordt)

TABLE 2.—RELATIVE TOXIC DOSES FOR THE TWO SEXES

	Males	Females
Diplosal	100	83
Oil of gaultheria	120	120
Aspirin	165	120
Synthetic salicylate	180	140
Natural salicylate	200	135

The Relative Toleration of the Different Salicylates.—This may be expressed as percentages of the tolerance of the synthetic salicylate (200 grains); accordingly the toxic dose of Diplosal is about 50, and oil of gaultheria and aspirin about 60 per cent. of that of synthetic sodium salicylate. Conversely, the efficiency of Diplosal is about twice; that of oil of gaultheria and aspirin about one and two-thirds times that of sodium salicylate.[2]

II. RANGE AND DISTRIBUTION OF TOXIC DOSES OF THE SALICYLATES

Besides the mean toxic dose, I have plotted the range and distribution of the toxic doses of the salicylates. These are shown for the synthetic salicylate in the curves of the chart, which was constructed from the data appearing in Table 3. The other salicylates have been tabulated in Table 4.

TABLE 3.—RANGE AND DISTRIBUTION OF TOXIC DOSES OF THE SYNTHETIC SALICYLATE.

Range of Dosage (gr.)	Males			Females		
	Mean Toxic Dose (gr.)	Number of Doses	Number of Individuals	Mean Toxic Dose (gr.)	Number of Doses	Number of Individuals
0-20	...	..	..	20	1	1
20-40	...	..	..	35	2	2
40-60	60	10	8	60	9	8
60-80	80	9	8	80	15	14
80-100	100	19	19	100	19	13
100-120	120	36	34	120	43	38
120-140	140	33	32	140	26	26
140-160	160	48	47	160	27	27
160-180	180	32	31	180	20	19
180-200	200	56	53	200	25	19
200-220	220	18	16	210	5	4
220-240	240	10	10	240	2	2
240-260	255	10	10	260	4	4
260-280	280	9	9	280	1	1
280-300	300	13	10	300	4	4
300-320	320	3	3	...	..	..
320-340	335	4	4	...	..	..
340-360	360	2	2	...	..	..
360-380	...	..	..	...	..	..
380-400	...	..	..	...	..	..
400-420	415	3	3	...	..	..
420-440	...	..	..	...	..	..
440-460	...	..	..	...	..	..
460-480	480	1	1	...	..	..
1,300	1,300	1	1	...	..	..

Synthetic Salicylate in Males.—The curve shows that the extremes of toxic doses were 60 and 480 grains. In one case the unusually large dose of 1,300 grains was necessary to produce toxic symptoms. It is seen that the toxic dose ranged between 100 and 200 grains for 197, or 65 per cent., of male individuals. Between 200 and 300 grains the toxic dose was distributed among 55 individuals, or about 18 per cent.; below 100 grains, among 35 individuals, or about 12 per cent.; above 300 grains, among 14 individuals, or about 5 per cent.

Synthetic Sodium Salicylate in Females. — The extremes of dosage here were 20 and 300 grains. The toxic dose ranged between 100 and 200 grains for the majority of individuals, namely, 129, or about 69 per cent.; below 100 grains for 43 individuals, or about 23 per cent.; above 300 grains for 15 individuals, or about 8 per cent.

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[2] The salicylic acid content of the different salicylates is as follows: sodium salicylate, 85.6 per cent.; Diplosal, 106.2 per cent.; aspirin, 77 per cent., and methyl salicylate (oil of gaultheria), 90.7 per cent.

TABLE 4.—RANGE AND DISTRIBUTION OF THE TOXIC DOSES OF OIL OF GAULTHERIA, "NATURAL" SALICYLATE, DIPLOSAL AND ASPIRIN

Range of Dosage (grains or minims)	Oil of Gaultheria		Natural Salicylate		Diplosal		Aspirin	
	Number of Males	Number of Females	Number of Males	Number of Females	Number of Males	Number of Females	Number of Males	Number of Females
10-20	..	.	.	1	..	..	.	..
20-40	..	..	..	..	..	1	..	1
40-60	1	1	..	1	4	..	..	..
60-80	1	3	1	1	.	2	..	3
80-100	2	3	1	..	2	..	1	1
100-120	3	4	..	1	1	..	..	2
120-140	3	..	..	..	2	..	1	1
140-160	..	2	1	1	.	..	1	1
160-180	2	..	1	..	..	..	.	2
180-200	1	3	2	1	1	..	..	..
200-220	..	..	.	..	..	..	..	..
220-240	..	1	..	1	1	..	..	..
240-260	1	1	..	..	..	..	1	..
260-280	..	..	..	..	..	..	..	..
280-300	..	..	..	1	..	..	..	..
300-320	..	..	..	..	..	..	..	..
320-340	..	..	2	..	..	..	..	..
340-360	..	..	..	..	..	..	..	..
360-380	..	1	..	..	..	..	..	..
.	..	..	1	..	..	..	..	..

The data in Table 3 and the course of the curves in Figure 1 indicate that more males than females tolerate higher doses of the synthetic salicylate, and that more females than males become toxic on smaller doses. For instance, between a range of 100 to 140 grains, 64 females, or 50 per cent., became toxic as against 66 males, or 33 per cent.; between 140 and 200 grains 65 females, or 50 per cent., became toxic as against 131 males, or 67 per cent.

Other Salicylates.—These are shown in Table 4. With oil of gaultheria (wintergreen), for most individuals (male and female) the range of dosage seems to lie between 100 and 200 minims. This appears to be about the same for aspirin, that is, between 100 and 200 grains, but somewhat less in males for Diplosal in which the greatest number of individuals tended to become toxic with a dosage of less than 100 grains. Concerning Diplosal, "natural" salicylate and aspirin, the number of doses and cases is so small that deductions are rather insecure.

Conclusions.—The toxic dose of the synthetic sodium salicylate for most male and female individuals (about 68 per cent.) lies between 100 and 200 grains. Outside of this range, comparatively small and large doses are confined to the minority. Practically the same holds true for the oil of gaultheria. As for the other salicylates, aspirin, Diplosal and "natural" sodium salicylate, the cases are too few to justify any conclusions except those shown by their general average (Table 1).

III. ABSENCE OF RELATION BETWEEN THE TOXIC DOSE OF SALICYLATE AND AGE (16 YEARS AND OVER)

The mean toxic dose, number of doses and the number of different individuals were ascertained and tabulated with respect to ranges of years. This was done for males and females and for each of the five different salicylates, as shown in Table 5.

This shows a close uniformity between the toxic doses corresponding to the different ranges of ages. This is especially true when the number of cases is large, as with the synthetic salicylate; here the toxic dose for all ages in males approximates the mean, 180, and in females the mean, 140.

As far as the other salicylates are concerned, the toxic doses corresponding to the ranges of ages also compare favorably with their mean toxic doses as recorded in Table 1. When large differences in the toxic doses appear, it is to be attributed generally to the comparatively small number of cases.

Conclusions.—The toxic dose of the different salicylates is not influenced by age between 16 and 75 years.

IV. APPROXIMATELY IDENTICAL TOXIC DOSE IN DIFFERENT RACES

In connection with this, data on only the synthetic salicylate were available. The mean of nine doses given to black adult males was found to be 180 grains, which corresponded exactly to the mean toxic dose (180 grains) for white adult males. With black adult females, the mean toxic dose of three records was 120 grains, against the mean toxic dose of 140 grains for white adult females.

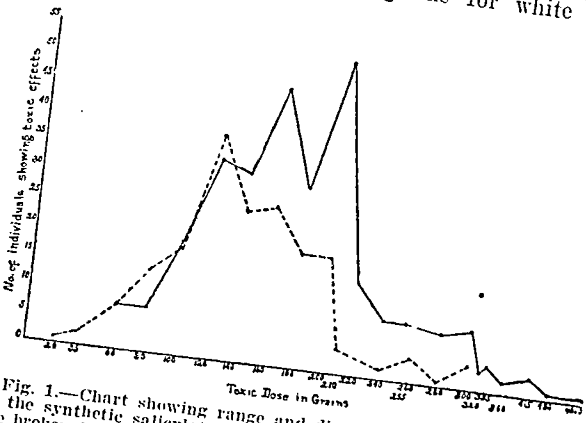

Fig. 1.—Chart showing range and distribution of the toxic doses of the synthetic salicylate. The continuous line represents males; the broken line, females.

TABLE 5.—RELATION OF TOXIC DOSE TO AGE

Range of Years	Males (Adult)			Females (Adult)		
	Mean Toxic Dose (gr.)	Number of Doses	Number of Different Individuals	Mean Toxic Dose (gr.)	Number of Doses	Number of Different Individuals
	SYNTHETIC SALICYLATE					
16-20	160	41	27	140	55	35
20-30	200	96	65	120	66	46
30-45	160	133	87	120	40	31
45-60	200	42	30	160	33	16
60-75	165	4	3	145	3	2
	"NATURAL" SALICYLATE					
16-20	200	1	1	216	4	2
20-30	260	2	2	40	2	1
30-45	200	5	5	90	2	1
45-60	75	1	1	...	..	..
	OIL OF GAULTHERIA					
16-20	180M	1	1	200M	6	4
20-30	120M	5	2	100M	6	5
30-45	120M	8	5	110M	7	5
45-60	180M	1	1	...	..	..
	ASPIRIN					
16-20	180	2	2	180	1	1
20-30	150	2	2	120	8	4
30-45	...	..	..	103	3	2
45-60	...	..	..	100	1	1
	DIPLOSAL					
16-20	120	2	2	55	2	2
20-30	98	3	2	80	1	1
30-45	60	4	4	...	..	..
45-60	153	3	2	...	..	..

Conclusion.—There is practically no difference between the toxic doses of the synthetic salicylate for adult individuals of the black and white races.

V. PRACTICAL IDENTITY OF TOXIC DOSE OF DIFFERENT SALICYLATES IN VARIOUS DISEASED CONDITIONS

This is shown in Table 6. In all conditions in which there were three or more cases, the toxic dose of the synthetic salicylate ranged between 150 and 220 grains for males, and between 135 and 180 grains for females. Practically the same holds true for the "natural" sodium salicylate, the toxic dose for males being 200 grains and for females 150 grains. The same holds also for the oil of gaultheria, the toxic dose for males ranging between 146 and 180 minims; and for females between 100 and 160 minims. The number of cases for aspirin and Diplosal is too small to warrant the drawing of definite conclusions.

TABLE 6.—RELATION OF THE TOXIC DOSE OF THE DIFFERENT SALICYLATES TO DISEASED CONDITIONS

Diseased Condition	Males (Adult)			Females (Adult)		
	Mean Toxic Dose (gr.)	Number of Doses	Number of Different Individuals	Mean Toxic Dose (gr.)	Number of Doses	Number of Different Individuals
SYNTHETIC SALICYLATE						
Rheumatic fever	180	226	151	140	114	70
Subacute rheumatism.	160	41	29	135	36	27
Syphilitic arthritis ..	218	12	3	...	...	..
Gonorrheal arthritis..	170	4	3	180	6	5
Sciatica	150	8	8	140	6	6
Infectious arthritis...	220	6	4	150	5	4
Arthritis deformans..	75	1	1	170	12	5
Other conditions* ...	176	21	15	119	11	11
"NATURAL" SALICYLATE						
Rheumatic fever	200	8	8	150	5	2
Other conditions† ...	158	3	2	90	1	1
OIL OF GAULTHERIA						
Rheumatic fever	180M	5	4	160M	13	9
Gonorrheal rh'matism.	100M	8	4	...	...	..
Other conditions ‡ ..	146M	3	3	100M	3	3
ASPIRIN						
Rheumatic fever	173	3	3	130	8	4
Other conditions §...	140	1	1	108	5	4
DIPLOSAL						
Rheumatic fever	120	7	7	75	2	2
Other conditions ¶...	68	5	3	40	1	1

* Among males, rheumatic spondylitis, muscular rheumatism, chorea and rheumatic fever, rheumatic purpura, gout, cerebral rheumatism, chorea alone, acute tonsillitis, influenza, acute synovitis; no diagnosis in one case. In females, acute tonsillitis, chorea; no diagnosis in one case.

† In males, gonorrheal arthritis. In females, chronic arthritis, subacute arthritis.

‡ In males, subacute rheumatism, chorea, rheumatic spondylitis. In females, subacute rheumatism, chronic arthritis, acute arthritis.

§ In females, gout, chorea, subacute neuritis, neuritis and polyarthritis. In males, tonsillitis.

¶ In males, subacute arthritis, infectious arthritis. In females, tonsillitis.

Conclusions.—As far as the synthetic salicylate is concerned, the toxic dose is practically the same in various diseased conditions in adult males and females. This probably holds true for the other salicylates.

VI. RELATION OF THERAPEUTIC EFFECT TO TOXIC DOSE OF THE SYNTHETIC SALICYLATE

It would be of considerable practical importance to know if a given patient with a given diseased condition will be therapeutically benefited by the average toxic dose of a salicylate. To gain some idea concerning this the data were examined with a view to determine what, if any, relation exists between a single toxic dose of the synthetic salicylate and the "therapeutic response" in various diseased conditions. By "therapeutic response" is understood the clinical therapeutic result obtained after a toxic dose of the salicylate. The "therapeutic responses" were arbitrarily divided into three classes:

1. Complete therapeutic response, which refers to a complete disappearance of the objective symptoms, such as swelling, tenderness and redness of the joints involved, return of the temperature to normal, diminution of the pulse-rate and respiratory rate, absence of sweating; and abatement of the subjective symptoms, such as pain in the joints, the return of the sensation of well-being and the return of the use of the affected parts.

2. Incomplete therapeutic response, which refers to a partial abatement of the subjective and objective symptoms as mentioned above.

3. No response, by which is meant no change in the progress of the diseased condition during the course of salicylate medication.

In this connection only the synthetic sodium salicylate was investigated, since the number of cases in which the other salicyclates were used was so small that no definite conclusions could be drawn.

Conclusion.—Table 7 shows that the therapeutic response in various diseased conditions does not modify the toxic dose of the synthetic salicylate. This is true for both males and females, although there appears to be a tendency toward smaller corresponding doses among the females.

TABLE 7.—RELATION OF THE THERAPEUTIC EFFECT TO THE TOXIC DOSE OF THE SYNTHETIC SALICYLATE

Diseased Condition	Therapeutic Response	Males (Adult)		Females (Adult)	
		Mean Toxic Dose (gr.)	Number of Individuals	Mean Toxic Dose (gr.)	Number of Individuals
Rheumatic fever	Complete....	200	75	180	33
	Incomplete..	173	16	150	6
	No.........	250	1	140	1
Subacute rheumatism.	Complete....	160	8	150	8
	Incomplete..	180	4	120	5
	No.........	147	3	105	2
Sciatica	Complete....	...	..	...	..
	Incomplete..	160	6	110	2
	No.........	120	1	115	2
Other conditions..	Complete*...	159	9	80	1
	Incomplete†.	228	5	152	2
	No‡........	188	2	142	5

* The conditions represented here are as follows: Males, one case each of infectious arthritis, rheumatic spondylitis, muscular rheumatism, acute tonsillitis, gout, influenza, one case with no diagnosis and two cases of rheumatic purpura; in females, acute tonsillitis, one case.

† In males, one case each of synthetic arthritis, cerebral rheumatism, acute synovitis and two cases of gonorrheal arthritis; in females, one case each of arthritis deformans and chorea.

‡ In males, one case each of chorea and arthritis deformans; in females, two cases each of infectious arthritis and gonorrheal arthritis, and one case of arthritis deformans.

VII. THERAPEUTIC EFFICIENCY OF TOXIC DOSE OF SYNTHETIC SALICYLATE GREATEST IN RHEUMATIC FEVER

Table 8 indicates that the therapeutic efficiency of the synthetic salicylate is greatest in acute rheumatic fever, in which it gave complete therapeutic responses in 81.8 per cent. of males and females, and complete failure in only 1.6 per cent. In subacute rheumatism, the efficiency of the salicylate is not so great as in the acute fever. About one-half of the cases showed complete therapeutic responses, and 16.6 per cent. no responses. In sciatica, no case with a complete therapeutic response is recorded and 27.2 per cent. showed no responses whatever.

TABLE 8.—THERAPEUTIC EFFICIENCY OF THE TOXIC DOSE OF THE SYNTHETIC SALICYLATE IN DISEASED CONDITIONS

Therapeutic Response	Acute Rheumatic Fever		Subacute Rheumatism		Sciatica		Other Conditions *	
	Number of Cases	Per Cent.	Number of Cases	Per Cent.	Number of Cases	Per Cent.	Number of Cases	Per Cent.
Complete....	108	81.8	16	53.3	0	0	10	41.6
Incomplete..	22	16.6	9	30.0	8	72.7	7	29.1
No.........	2	1.6	5	16.6	3	27.2	7	29.1
Total.....	132	....	30	....	11	....	24	....

* See foot-note to Table 7.

For other conditions the therapeutic efficiency of the synthetic salicylate appears to be quite variable, and inasmuch as the number of cases for any particular condition was very small, no definite conclusions could be drawn for the individual condition. Collectively, 41.7 per cent. showed complete responses, 29 per cent. none whatever.

Conclusions.—The therapeutic efficiency of the synthetic salicylate is greatest in acute rheumatic fever. Subacute rheumatism and other conditions are also often relieved completely, but the percentage of complete successes is not nearly so great, and the percentage of failures much higher. In sciatica no complete relief was obtained, but the majority of patients showed more or less relief.

VIII. FREQUENCY OF OCCURRENCE OF ALBUMINURIA AFTER TOXIC DOSES OF SYNTHETIC SODIUM SALICYLATE IN FEBRILE AND AFEBRILE CONDITIONS

The administration of salicylate is believed by some to cause renal irritation and albuminuria, while others believe that it may lessen albuminuria in rheumatic fever. Our data on this point were not wholly satisfactory, for in no case was there a record of the observation of albumin before administration of the salicylate. This, in general, holds for all the urinary statistics such as the presence or absence of casts, blood, acetone and diacetic acid. Notwithstanding these difficulties, an attempt has been made to throw some light on the occurrence of albuminuria in connection with salicylate.

The occurrence of albuminuria in afebrile conditions in connection with medication, such as the toxic dose of a salicylate, presumably would be due to the use of the drug. The absence of albuminuria under similar conditions would indicate that there is no relation between the medication and albuminuria.

The results are shown briefly in Table 9. It will be seen that in males albuminuria is much more frequent in febrile than in afebrile conditions. This suggests strongly that the albuminuria is due to the fever rather than to the salicylate. What part, if any, the salicylates play in the production of the albuminuria can be settled only when more carefully collected data are available.

IX. INDIVIDUAL IDIOSYNCRASY TOWARD TOXIC DOSES OF THE SYNTHETIC SALICYLATE

The clinical data presented in this paper show that the toxic dose of the synthetic sodium salicylate ranges between 100 and 200 grains for the majority of adult individuals of both sexes. Many of the records, however, showed variations in dosage below 100 and above 200 grains. These records were examined to ascertain what, if any, relations exist between these variable doses and such factors as age, sex, race and diseased conditions. The effect of repeated dosage in the same individual was also studied.

TABLE 9.—OCCURRENCE OF ALBUMINURIA IN SALICYLATE MEDICATION

Diseased Condition	Males		Females	
	Total Number of Individuals Tested for Albumin	Per Cent. Showing Albumin	Total Number of Individuals Tested for Albumin	Per Cent. Showing Albumin
Rheumatic fever	138	67	86	82
Subacute rheumatism.	26	43	23	52
Other febrile conditions *	22	68.2	15	73.3
Other afebrile conditions †	13	23	13	69

* In males: gonorrheal arthritis, 3 cases; infectious arthritis, 5 cases; tonsillitis, 1 case; syphilitic arthritis, 3 cases; muscular rheumatism, 2 cases; chorea plus rheumatic fever, 3 cases; rheumatic spondylitis, 2 cases; cerebral rheumatism, 1 case; acute synovitis, 1 case; influenza, 1 case. In females: gonorrheal arthritis, 4 cases; infectious arthritis, 5 cases; tonsillitis, 6 cases; rheumatoid arthritis, 1 case.

† In males: gout, 1 case; chorea, 1 case; arthritis deformans, 1 case; rheumatic purpura, 1 case; no diagnosis, 1 case. In females: chorea, 1 case; arthritis deformans, 5 cases; chronic rheumatism, 2 cases; subacute rheumatism, 1 case; no diagnosis, 1 case.

Table 10 indicates that there is no relation between these different factors and idiosyncrasy to toxic doses of the salicylate. It is seen that the total number of doses representing ranges below 100 grains is greater among females (71 per cent.) than among males. On the other hand, the total number of doses ranging above 200 grains is greater for males (80 per cent.) than for females. This would indicate, in general, a somewhat greater susceptibility of females to small doses, and greater resistance of males toward larger doses of the salicylate. There is a uniform distribution of young and old male individuals (ranging between 19 and 54 years) for doses of from 220 to 480 grains. One man, aged 29, required the exceptionally large dose of 1,300 grains. Practically the same is true of the females; that is, ranges of years vary between 17 and 52 years, and doses between 210 and 300 grains. As to toxic doses below 100 grains for males, the toxic doses range between 50 and 90 grains and the ages between 16 and 50 years; for females, the doses range from 20 to 90 grains and the ages between 16 and 60 years.

TABLE 10.—RELATION OF IDIOSYNCRASY AND AGE, AND OF IDIOSYNCRASY AND RHEUMATIC FEVER

	Males		Females	
	Small Doses	Large Doses	Small Doses	Large Doses
Range of dosage.	50 to 90 grains.	220 to 480 grains.	20 to 90 grains.	210 to 300 grains
Number of doses.	19	74	32	13
Range of years.	16 to 50 average, 28	19 to 57 average, 30	16 to 60 average, 32	17 to 52 average, 2
Percentage of rheumatic fever	80 per cent.	65 per cent.	44 per cent.	46 per cent

The majority of the diseased conditions in both sexes are represented by acute rheumatic fever. The small number of other conditions is uniformly distributed among the ranges of small and large doses in both males and females.

There is practically no relation between race and the different doses so far as the small number of individuals of other than the white race permits the drawing of any conclusions. Nearly all of the individuals belonged to the white race.

Accurate statistics as to the body-weight were not available.

Many of the patients received repeated toxic doses of the salicylate. These were divided into two groups: (1) those who became toxic with doses which varied but little (by less than 60 grains); (2) those whose toxic doses varied considerably (more than 60 grains). The data have been placed in Table 11, which shows the doses in order of their administration at the bedside. This shows that by far the greater number of patients with idiosyncrasies (71 per cent. of males and 60 per cent. of females) belong to the second or variable group; that is, their tolerance varied greatly at different times. There is scarcely any tendency among the doses to be arranged in ascending or descending orders, so that use of salicylates does not increase either tolerance or susceptibility.

TABLE 11.—INDIVIDUAL IDIOSYNCRASY TOWARD THE SYNTHETIC SALICYLATE

Number of Case	Females	
	Several Toxic Doses Approximately Constant	Several Toxic Doses Variable
6458	....	100 ; 1,300
9345	....	340 ; 480 ; 260 ; 280 ; 200
11060	340 ; 300	....
2462	....	330 ; 135
9250	....	330 ; 60 ; 160 ; 200
10246	....	320 ; 280 ; 160 ; 180
10206	280 ; 300	....
2917	....	195 ; 75
3626	....	150 ; 255
10207	....	180 ; 300 ; 120
9334	260 ; 200 ; 240	....
6482	....	100 ; 60 ; 240
2611	....	265 ; 300 ; 80 ; 180 ; 120
10366	280 ; 220 ; 220	....

Number of Case	Males	
	Several Toxic Doses Approximately Constant	Several Toxic Doses Variable
3155	....	110 ; 300 ; 300 ; 190 ; 150
9338	....	140 ; 180 ; 260
11119	....	100 ; 260
3123	....	180 ; 190 ; 260 ; 285 ; 300 ; 13
2652	....	160 ; 30 ; 60
10416	80 ; 100	....
8406	....	80 ; 160
3496	....	120 ; 80 ; 55
6136	60 ; 60	....
2824	40 ; 90 ; 70	....
7164	80 ; 70	....
5630	....	60 ; 120 ; 100 ; 180 ; 200
7544	120 ; 80	....
7737	100 ; 80 ; 120	....
3728	....	300 ; 80

CONCLUSIONS

The differences found in the toxic doses of the synthetic salicylate below 100 and above 200 grains, and their variability, cannot be attributed to the influence of such factors as age, sex, race and diseased condition. There are no relations between small and large doses of the salicylate and increased susceptibility and resistance, respectively, in the same individual. There is no demonstrable habituation to the synthetic sodium salicylate.

SUMMARY†

1. The mean toxic doses of the different salicylates for adult males and females, respectively, are 180 and 140 grains of the synthetic sodium salicylate; 200 and 135 grains of the natural sodium salicylate; 120 minims of the oil of gaultheria (methyl salicylate); 165 and 120 grains of acetylsalicylic acid (aspirin); and 100 and 83 grains of salicylosalicylic acid (Diplosal). For females the toxic dose of the salicylates is approximately 80 per cent. of that for males.

The toxic dose of salicylosalicylic acid is about 50 per cent.; that of methyl salicylate and acetylsalicylic acid about 60 per cent. of that of sodium salicylate.

2. The toxic dose of the synthetic sodium salicylate for the majority, or about 68 per cent., of individuals of both sexes lies between 100 and 200 grains. Practically the same is true of the methyl salicylate.

3. The toxic dose of the different salicylates is not influenced by age between 16 and 75 years.

4. The toxic dose of the synthetic salicylate is the same in white and colored races.

5. The toxic dose of different salicylates is practically the same in various diseased conditions.

6. The therapeutic response in various diseased conditions does not modify the toxic dose of the synthetic salicylate.

7. The therapeutic efficiency of synthetic sodium salicylate is greatest in rheumatic fever and, not infrequently, partial relief and even complete relief are obtained in other conditions.

8. Presumably, there is no relation between the occurrence of albuminuria in febrile and afebrile conditions and toxic doses of the synthetic salicylate.

9. Individuals show idiosyncrasy toward toxic doses of the synthetic salicylate, but no connection was found between these idiosyncrasies and the factors of age, sex, race and diseased condition. The idiosyncrasy generally varies in the same patient, and is not influenced by previous salicylate medication.

I wish to express my thanks to Professor Hoover, chief of the medical clinic, to the hospital authorities, who kindly permitted the use of the hospital records, and to Dr. H. L. Taylor, resident physician, who in many ways was helpful to me in securing material. I am very grateful to Professor Sollmann for many valuable suggestions, and to him and to Dr. Hoover for criticizing the manuscript.

AUTOSEROTHERAPY IN SEROFIBRINOUS PLEURISY

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At the International Medical Congress in Rome in 1894 Dr. V. Gilbert stated that since 1891 he had treated tuberculous pleurisy with effusion by the subcutaneous injection of a small amount of the fluid withdrawn from the pleural cavity with an aspirating syringe. He found that within a few days after this injection, which he called "autoserotherapy," the serofibrinous exudate in the pleura disappears and the patient recovers. This method of treatment has been rather slow in gaining recognition, and was almost forgotten. During recent years, however, there have been reports from various clinics in Europe tending to show that there is great value in autoserotherapy, and its general adoption by the profession has been strongly urged. The animal experiments recently performed by Georg Eisner[1] show quite conclusively that there is a scientific basis for this mode of treatment, and that in experimental pleurisy autoserotherapy is of great value. Indeed, it appears from Eisner's experiments that it is not only the withdrawal of the fluid which mechanically stimulates absorption, as has been maintained by some, but it is the subcutaneous injection of the fluid that is responsible for the absorption of the exudate in autoserotherapy.

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† The numbers of the summary correspond to those of the sections of the text.

During the last four years I have tried this method of treatment in twelve cases of pleurisy with effusion, and although I cannot say that it is a specific, because it has not cured every patient, I believe that it has sufficient merit to warrant its more general adoption.

The technic is that of exploratory puncture. All antiseptic precautions must be strictly observed in the preparation of the instrument and the field for puncture. An ordinary aspirating syringe is used. The patient is placed in a sitting position and the needle is inserted at a place where the fluid is most likely to be found. After withdrawal of a syringeful of fluid the needle is immediately reinserted into the subcutaneous tissue of the chest, preferably the interscapular space, and the fluid is slowly injected. The fluid may also be injected in other regions, such as the cellular tissue of the abdomen or in the lumbar region, etc. A better way is the following: After aspiration of a few cubic centimeters of fluid from the chest the needle is not completely withdrawn, but turned around perpendicularly to the chest wall and inserted into the subcutaneous tissue at the site of the puncture and the aspirated fluid is slowly expelled. Some operators have thus injected, with large syringes, 10 or 15 c.c. and more of fluid under the skin. I have usually been satisfied with from 2 to 5 c.c., and have found it just as satisfactory in suitable cases as the injection of larger quantities. In fact, I am convinced that the quantity of fluid injected is not of importance. In some cases the injection of large quantities has been of no avail, while in suitable cases 2 c.c. of fluid were effective in inaugurating a process of absorption which soon terminated in a cure.

In suitable cases within twenty-four hours after the injection there is observed an improvement in the general condition of the patient; an increased diuresis, an amelioration of the dyspnea, and the physical signs show that the upper level of the fluid in the chest begins to sink, and within a week or ten days no fluid at all can be discovered. Some writers have even stated that after autoserotherapy there is less likelihood of the formation of the large fibrous bands so common after aspiration of fluid from the chest, which are responsible for many discomforts in later life. In my experience this could not be proved. Indeed, it appears to me that, except for the absorption of the exudate, autoserotherapy has no effect. Some patients developed tuberculosis of the lungs later on, while those who were tuberculous at the time they suffered from pleurisy continued in about the same condition, as if they had had no pleurisy in the course of their trouble.

In some cases a single injection is sufficient to effect a cure within several days, in others it may be necessary to repeat the procedure several times before the fluid is absorbed completely, while in some others, though proportionately few, as was already stated, autoserotherapy is of no use at all. On the other hand, no dangerous or even threatening symptoms have ever been observed by any one who tried this method of treatment, which may be considered altogether innocuous.

Nine of the twelve cases which I have treated were distinctly benefited. In one the result was doubtful, and in two it failed utterly. The first case was one in which the effusion in the chest had been present for four weeks, showing the usual effects of a large effusion—displacement of the neighboring organs, dyspnea, slight fever, anorexia, debility, etc. Seven hours after the first injection of 3 c.c. of pleural fluid the fever increased 1.4 F., but the next morning it dropped to 99.8 F., and twenty-four hours later it was normal and remained so indefinitely. The quantity of urine was increased; the appetite and the general condition of the patient improved to such an extent that he wanted to walk out on the third day, which he had not ventured during the preceding month. The upper level of the fluid, which before autoserotherapy had reached the fifth thoracic spine posteriorly, began to sink, reaching the seventh thoracic spine within three days, and ten days after the injection no fluid could be found by the usual methods of physical examination. The disappearance of the palpatory, percutory and auscultatory signs went hand in hand with the disappearance of the fluid in the chest, and the displaced organs (the heart, liver, etc.) showed a rapid regression to their normal positions. Considering that for a month before the injection the fluid showed no tendency to absorption, and that after this mode of treatment nothing else was done to assist absorption, it would seem that the injection may be safely credited with the cure of this case.

In another case, that of a child of 5 with a pleural effusion filling about three-fourths of the right chest and producing profound dyspnea, etc., the results of autoserotherapy were even more striking and convinced me of its great value. During the three weeks that this effusion was in the chest, exploratory puncture was performed twice, and once 7 ounces of fluid were aspirated with a Potain apparatus, but the fluid reaccumulated within three days. Soon after the injection of 3 c.c. of fluid into the subcutaneous tissue of the chest the effusion began to show signs of absorption and disappeared within a week. That autoserotherapy was responsible for the cure in this case appears to be beyond question. Some writers have said that the removal of even a small quantity of fluid stimulates absorption and that inasmuch as about 80 per cent. of cases of pleurisy with effusion tend to spontaneous recovery, which is about the percentage of cases cured by autoserotherapy, the latter mode of treatment is of no value. But in a case in which exploratory puncture was done twice, and aspiration of a comparatively large quantity of fluid once without any effect, while the injection of 3 c.c. of fluid was the starting-point for the absorption of the exudate, autoserotherapy can be considered of great value.

In a case showing an effusion reaching posteriorly to a level of the sixth thoracic spine, 4 c.c. of fluid were injected subcutaneously on the twelfth day after the onset of the disease. I saw this patient again two days later and found the level of the fluid at the angle of the scapula, and ten days later no fluid at all could be found by the usual methods of physical exploration. In this case the quantity of urine voided increased within six hours after the injection. The temperature, [illegible] was of a remittent type, 99 to 100 [illegible] the [illegible] and 101 to 102.5 F. in the ev[illegible] [illegible] affected by the disappearance of

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1. Eisner, Georg: Experimentelle Untersuchungen über Autoserotherapie, Ztschr. f. klin. Med., 1912, lxxvi, 34.

absorption of the fluid in the chest it was noted that early in the morning the temperature was slightly subnormal, 96.5 to 98 F., and 100 to 101 F. in the evening. A tuberculous lesion in the left apex, as well as some friction sounds and defective motion at the left base, were diagnosed.

In the case of a child 4 years old the effusion had existed three weeks before autoserotherapy was applied. The right chest was filled with fluid up to the third rib, the heart was displaced to the left, the liver pushed downward, etc. The fever was rather high, reaching 104.5 F. on some days, and for two weeks before autoserotherapy was applied it was never found lower than 102 F. Within twenty-four hours after the first injection the fever dropped to 101 F., the dyspnea was greatly relieved and the rate of respiration dropped from 40 to 28 per minute. The upper level of the fluid sank, reaching the seventh rib on the sixth day, but remained there for a week. Another injection was then made, and repeated every two days for the next two weeks, when no fluid could be found in the chest, the child making an uneventful recovery.

An interesting case was that of a young man of 25 who came to my office for advice concerning the suggestion given him by a physician, that he must leave for the mountains because of tuberculosis of the lungs. Physical exploration of the chest revealed an effusion in the left pleura extending up to the sixth thoracic spine. This was immediately confirmed by an exploratory puncture. I did not completely withdraw the needle, but immediately turned it and injected the fluid contents of the syringe, about 3 c.c., into the subcutaneous tissue at the site of the puncture. The patient's history was rather suggestive. He had been coughing for three months, had slight fever, malaise, and later dyspnea on the slightest exertion. At no time had he had any acute pain in the chest. He had lost 18 pounds in weight during the three months. Treated at first for bronchitis, he was finally advised to go to the mountains to cure what was considered pulmonary tuberculosis. My request that he call again within twenty-four hours was disregarded by the patient, but he showed up again ten days later, telling me that he could not call on the appointed day because he was too sick to leave his bed on a rainy day. But on the next day he began to improve, his strength showed signs of returning, his appetite was improving and the dyspnea had almost disappeared. While before the injection he could not sleep on his right side, he noted that during the last three days, one week after the injection, it made no difference to him on which side he reclined. His cough and expectoration increased, but he did not complain because, as he put it, he found it easier to "bring up phlegm." He gained 4 pounds in those ten days. The level of the fluid was now at the seventh thoracic spine. Another puncture with reinjection of the fluid was made, and the patient was given a prescription calling for 5 grains of potassium iodid three times a day. Within four weeks his condition had improved to the extent that he could resume his work, that of a watchmaker. I examined this patient one year later and found him in excellent condition, except for some defective resonance and faulty motion at the right base, which remained as traces of his pleurisy.

But not all my cases of autoserotherapy were successful. In one patient with a large effusion in the right side the injection of 5 c.c. of fluid on alternate days six times did not relieve the condition at all. On the contrary, the amount of fluid in the chest increased in spite of the treatment, with a concomitant aggravation of the general condition, especially the dyspnea. The displacement of the mediastinum, liver, etc., was extreme, so that tapping of the chest had to be done; 30 ounces of fluid were withdrawn on one occasion and 20 on another. Although at each tapping I reinjected about 10 c.c. of the fluid under the skin, I cannot say that the eventual disappearance of the effusion could be attributed to the autoserotherapy in this case. In another case of advanced pulmonary tuberculosis in an old man under my care in a hospital several injections of rather large quantities of fluid, 10 to 15 c.c. each time, had no effect. Aspiration had to be resorted to on repeated occasions, but the pleural cavity refilled quite promptly, until finally a fatal issue relieved the man of his severe sufferings.

On the whole, it appears to me, judging from the twelve cases of pleurisy which I have treated by this method, that autoserotherapy is an excellent means at our command in cases of serofibrinous pleurisy, and should be tried in every case of pleural effusion. While not all patients will be cured, in some the course of the disease may be shortened, while others, who would otherwise suffer severely for weeks, may be greatly relieved.

Altogether there have not been reported a sufficient number of cases in medical literature to place autoserotherapy on a firm foundation as a specific in pleurisy with effusion. Besides the few cases reported by Gilbert[2] and Fede,[3] who were the first to suggest this method of treatment, there have also been reported successful cases by Schnütgen,[4] Geronzi,[5] Joseph Dodal,[6] Zimmermann,[7] Dumitriu,[8] Sarcinelli, Enriquez, and Durand and Weil.[9] Tchigayeff[10] reports fifty-six cases in which forty-two were quickly and completely cured; in eight the success was incomplete, and only in six could the treatment be considered a failure. Tchigayeff concludes that the sooner the treatment is begun, the surer one is of succeeding and the quicker the cure. In his experience, amelioration of the subjective difficulties was a constant phenomenon. It was evident that in tuberculous patients pleural effusion was absorbed, yet there was no apparent influence on the course of the lesion in the lung. M. Marcou[11] reports 160 cases. He observed an increase in the temperature of about 1° F. during the evening after the injection, but beginning with the next morning the fever would drop and keep on sinking till it reached the normal limits. Marcou is emphatic in his statements that he observed a prompt arrest in the progress of the disease after autoserotherapy, although he could not assign any specific action to this mode of treatment. Rudisch,[12] of New York, reports three cases which were successfully treated by autoserotherapy, and says that he is sufficiently encouraged to urge its more extensive application.

The question how autoserotherapy promotes the absorption of pleural effusions has been a source of speculation to various writers. As already stated, some authors (Nassetti,[13] Szurek,[14] Arnsperger,[15] Hochhaus,[16] etc.) are under the impression that all the reported favorable cases do not prove that the subcutaneous injection of the fluid is responsible for the absorption of the exudate. It is argued that about 80 per cent. of all cases of pleurisy with effusion recover spontaneously, and inasmuch as autoserotherapy cures about the same proportion of cases, it cannot be concluded that it is superior to expectant treatment. Other writers have argued that the absorption of an exudate often takes place after an ordinary exploratory puncture, that is, through mechanical stimulation, and that in autoserotherapy a small quantity of fluid is always withdrawn, thus creating conditions favorable for the absorption of the exudate. But as I have shown, there are cases in which repeated exploratory punctures and even tappings were not effective, while autoserotherapy promptly stimulated complete absorption of the exudate.

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[2] Gilbert: Gaz. d. hôp., 1894, p. 560; L'autosérothérapie de la pleurésie sérofibrineuse, Rev. méd. de la Suisse Rom., 1910, p. 24.

[3] Fede: Riforma Med., xxii, No. 39.

[4] Schnütgen: Die Autoserotherapie bei serös-fibrinöser Pleuritis, Berl. klin. Wchnschr., 1909, No. 3, p. 97.

[5] Geronzi: Med. ital., Napoli, 1907, ii, No. 4.

[6] Dodal, J.: Zur Autoserotherapie bei exudativer Pleuritis, Wien. med. Wchnschr., 1910, p. 455.

[7] Zimmermann: Zur Autoserotherapie der exudativen Pleuritis, St. Petersburg med. Wchnschr., 1909, No. 34, p. 461.

[8] Dumitriu: Spitalul, Bucharest, 1910, No. 15.

[9] Durand and Weil: Bull. et mém. Soc. méd. d. hôp., June 4, 1904.

[10] Tchigayeff: Russk. Vrach, 1910, No. 51.

[11] Marcou: L'autosérothérapie pour activer l'absorption des épanchements pleuraux, Presse méd., 1909, No. 71, p. 627.

[12] Rudisch, J.: Autoserotherapy in Chronic Pleurisy with Effusion, Med. Rec., New York, April 8, 1911.

Gilbert,[2] the discoverer of this method of treatment, believes that the exudate, especially in tuberculous pleurisy, contains the specific toxins of the tubercle bacilli, and many other writers have accepted this view. Some think that the exudate contains specific antibodies which accumulate in the chest, and that when injected subcutaneously they are absorbed immediately into the circulation and exert an influence on the absorption of the fluid. Others think that there is in pleurisy an accumulation of autolytic products of cell metabolism which, when injected subcutaneously, bring about absorption of the exudate. This appears to be confirmed by the observation of Zimmermann[7] that after autoserotherapy there is to be found a striking leukocytosis. In a case in which Zimmermann made careful blood-counts he found that before the injection of the pleural fluid the number of leukocytes was 8,500, while soon after the injection the number rose to [illegible] the number of leukocytes [illegible] twenty-four hours the number [illegible] to normal. After another injection [illegible] the leukocyte count rose again fr[illegible] This observation would seem to [illegible] made by some that the accum[illegible] ucts in the exudate—synthe[illegible] of cell metabolism—are re[illegible] of the exudate after au[illegible] Schnütgen). Zimmermann's [illegible] an injection of a solution [illegible] leukocytosis and also an [illegible] autoserotherapy. is confirm[illegible]

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rise. In some experiments this leukocytosis [illegible] within twenty-four hours after the injection [illegible] others it was three or four days before [illegible] Injections of tuberculous exudate [illegible] by a sudden and marked increase [illegible] leukocytes which lasted one [illegible] quickly. In one case the increase [illegible] leukocytes reached seven thousand [illegible] the increase oscillated between [illegible] Control experiments showed [illegible] cyte count.

From his animal experiments [illegible] there is beyond any doubt [illegible] white blood-cells, independent [illegible] perature, after the injection [illegible] from a pleural exudate. [illegible] mind in this connection [illegible] sterile oil of turpentine [illegible] Eisner could not find [illegible] the pleural fluid obtained [illegible] tested this point only [illegible] not be stated positively [illegible] oil of turpentine in [illegible]

The suggestion [illegible]

SOME OLD PELVIC INFLAMMATORY DISEASES

THEIR NON-SURGICAL TREATMENT, WITH REPORT OF CASES

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Under the title, "Some Old Pelvic Inflammatory Diseases," I desire to call attention to a few affections of the pelvic organs which are commonly met by the general practitioner, but which he gives very little consideration or entirely overlooks in his management of diseases of the pelvic organs. I refer especially to chronic perimetritis with adhesions, chronic parametritis, shortening of the uterosacral ligaments with consequent retrodisplacement of the uterus, and lastly old pelvic cellular exudates. Kelly states that it is of the utmost importance that the general practitioner recognize clearly all his cases of pelvic inflammatory disease, so that proper treatment can be begun and these chronic sufferers relieved of their symptoms; but unfortunately, many of these conditions are not properly understood, no diagnosis is made, and the patient is given the usual routine treatment of tampons and douches.

We may divide our pelvic inflammatory cases into two classes. In the first class, we find among our patients some who are of a highly sensitive nature, and therefore difficult to examine, as any pressure, however slight, causes pain, which makes them so contract and stiffen the abdominal muscles as to render negative almost any method of examination. With a little patience, however, we can gain the confidence of these patients by the assurance that we do not intend to cause them any unnecessary suffering, and after their fears are allayed, we can gradually make a fairly thorough examination.

In the second class, we find the extraordinary cases. In these, the patient may have even wide-spread adhesions involving nearly all of the pelvic organs, yet may not suspect any pelvic disease, until some irregular menstrual function causes her to seek advice. Patients of this class can be thoroughly examined, a correct diagnosis made and appropriate treatment given.

The symptoms complained of in the diseases just mentioned consist of the usual train of gynecologic symptoms — dysmenorrhea, backache, leukorrhea, vague and obscure pains associated with headache, nausea and general malaise. The same symptoms may be caused by a variety of other pelvic diseases, as endometritis, salpingitis and ovaritis, so that the success of the treatment depends entirely on correct diagnosis. These forms of pelvic inflammatory disease may begin as an acute inflammation of the pelvic cellular tissue, or they may be chronic from the beginning and their cause may be puerperal, traumatic or from gonorrheic or other infections.

The diagnosis of chronic perimetritis with adhesions is made by bimanual examination. The outside hand is placed behind the uterus and holds that organ against the bladder, while, with the inside hand, the examiner presses his fingers between the folds of the uterosacral ligaments. He can then feel, if the uterus is held firmly with the outside hand, bands of adhesions running from the body of the uterus to the floor of the pelvis. There may be a number of these small fibrous bands and they feel about the size of heavy wrapping-cord. These adhesions when stretched or palpated are quite painful. This method is also employed when determining the condition of the uterosacral ligaments. These are felt in the culdesac of Douglas, just behind the cervix; when enlarged by inflammatory changes, they are much thicker, firmer and larger than usual and are very sensitive to pressure or stretching. The shortening or thickening of these two ligaments naturally pulls back the uterus, causing its retrodisplacement and, instead of finding the uterus forward near the symphysis, the examiner finds it drawn so far back in the pelvis that he is barely able at times to palpate it. This is the condition which is the cause of so many backaches in women which cannot be cured by tampons, hot douches, sitz-baths, etc. By bimanual traction and massage, the replacement of fixed retroverted and retroflexed uteri is accomplished, and absorption of adhesions is brought about in cases in which very little or no relief can be expected from any other method of treatment.

The system of treatment in the Allgemeines Krankenhaus in Vienna for the conditions mentioned above, which I have followed for the past year, is as follows: while the index and middle fingers of the left hand (or for obvious reasons the index-finger) steady and support the cervix by slightly lifting it up, the right hand by a series of rotary movements gently massages the uterus through the abdominal wall. The movements are all from the shoulder, the hand, wrist and elbow being free and not stiff. These movements are performed slowly, ten to fifteen times at the first treatment and, if no unusual pain or soreness follows, the same treatment can be carried out three times weekly, until the patient is relieved of her symptoms. Even in patients with rigid abdomen, the operator is able after a few treatments to massage the whole posterior body of the uterus, thus improving the blood-supply of the pelvic viscera and at the same time stretching the adhesions which keep the uterus in an abnormal position and lengthening the uterosacral ligaments. By the same series of movements through the abdominal wall, a retroverted uterus which is movable can be brought forward; the only change made is to place the inside fingers against the anterior portion of the cervix and push posteriorly, at the same time bringing the uterus forward, and installing a suitable pessary with the outside hand. Massage of this kind is also indicated in puerperal cases of retroversion, in which the uterus is heavy and congested. The muscular tone of the uterus is thereby improved and exudation and improved circulation result.

CHRONIC PARAMETRITIS

At the sides and on the floor of the pelvis between the peritoneum of the pelvis and the fascia which it overlies, there is a layer of loose fibro-areolar tissue which is spoken of as the pelvic cellular tissue or parametrium. This is very often attacked by a specific or septic infection. These attacks may be acute or they may be chronic from the beginning. After treatment the inflammation either is resolved or causes atrophy or cicatrization of the cellular tissue.

Of lateral parametritis there are two forms, anterior and posterior. The anterior is more rare and sometimes extends over the surface of the bladder to the anterior wall of the abdomen. Chronic parametritis is sometimes found in virgins, the infection usually coming from the rectum; or the first attack may be due to an invasion from the intestinal tract about the appendix which eventually extends to the pelvic viscera. The causes are the same as in chronic perimetritis and shortening of the uterosacral ligaments. Freund gives as additional causes persistent masturbation, long-continued physical and mental suffering and malnutrition; he states that a diminution of elasticity and an atrophy of the pelvic cellular tissue and the internal genitalia follow. Schultz has described a form of the disease called posterior parametritis, in which the folds of Douglas are short and inelastic. The symptoms in these cases are also similar to those described as occurring in chronic perimetritis, with the addition that these patients very often complain of dyspareunia.

DIAGNOSIS OF PARAMETRITIS

The diagnosis is made by palpation of the parametrium. When the examiner stretches with the fingers painful or sensitive areas which show evidences of narrowing or contraction the patient, as in the case of perimetritis, will complain of pain similar to that which she sometimes suffers. Scars in the vaginal vault, extending from the cervix, may be readily felt on palpation.

It is almost the usual routine with me to consider pain and tenderness, associated with swelling of the vaginal vault, the result primarily of diseased adnexa. In a great number of cases this is correct, but if one does not bear in mind the possibility of the existence of other diseases, grievous mistakes in diagnosis and treatment may be made. There are no hard-and-fast rules by which one may be guided in differentiating these conditions, but the physician must make a systematic examination, taking into consideration all the tissues and organs which are likely to be affected as the result of septic or specific inflammation.

A right-side parametritis can be, and often is, mistaken for appendicitis, as pressure low down in the right quadrant of the abdomen will elicit pain in both conditions; but, knowing the history of the case thoroughly, if we bear in mind the fact that the two affections frequently coexist, then by placing the examining finger in the vagina, putting the parametrium on a stretch, and at the same time the other hand over McBurney's point, the diagnosis can be easily made. Pelvic massage is absolutely contra-indicated in any acute inflammatory condition, in recent pus collections, in fibroids, ectopic pregnancy or in tubo-ovarian disease. My object, therefore, in relating the following cases is chiefly to show how often chronic conditions other than diseased uterine adnexa are met and how they can be relieved by pelvic massage.

CASE 1.—Mrs. N., aged 35, married five years, no children, one miscarriage at seven months, came under my care in January, 1910. Family history was negative. The patient denied all knowledge of gonorrheal infection. She had always been well up to three years previously, when she suffered for six months with mucous colitis and fermentative dyspepsia. She now complained of backache which was increased by moving around or standing, and pains situated deep in the right side of the pelvis, which occurred before, during and after menstruation, the latter lasting for a day or two at the most, the color of the menstrual fluid being very dark.

Vaginal examination showed the uterus anteflexed and retroposed. On bimanual palpation, the whole right vaginal fornix was found swollen, painful and tender to pressure and I stated in my notes at that time that, undoubtedly, the right tube was involved.

I treated the patient with tampons, saturated with boroglycerid, twice a week for two months and once a week for one month longer, besides giving her douches and tonics. She improved somewhat in general health, felt much stronger and not so nervous, but still continued to have backaches and pain during menstruation.

I did not see this patient again until November, 1911, when she stated that she still had the same symptoms and that, six months previously, she had been confined to her bed and told that she had appendicitis but that she had refused an operation. On examination I found the uterus anteflexed, but still further back in the pelvis than when I examined her two years prior to this time. I found the parametrium on the right side contracted and very painful and sensitive, the right tube only slightly enlarged, the ovary not palpable.

On examining the culdesac of Douglas, I felt numerous bands of adhesions running between the uterosacral ligaments, parallel with the uterus, which accounted for its being retroposed. I treated her on six or seven different occasions by pelvic massage, but the fourth week she failed to appear: a little later when she called she told me frankly that she did not see how those treatments were going to relieve her suffering, but that at her last period she had menstruated better than she had in three years and so had decided to continue treatment until she was well.

After three months, during which time I massaged the parametrium on the right side and, by bimanual traction and massage was able to stretch the adhesions that were keeping the uterus displaced posteriorly, I managed to bring the uterus to its normal position and thereby relieved the backache and the pain with which she had suffered. I met her a few weeks ago on the street, and she said that she felt perfectly well and now menstruated without pain and that the flow lasted three full days.

CASE 2.—Miss K., aged 21, called at my office, October, 1911. Family history was unimportant. She gave a history of having had pneumonia one year ago in March. For two years past she had had considerable pain in the right side for two days previous to menstruation, the flow being very scant, the time of its appearance irregular and the duration never over a day and a half. She soiled no more than two napkins during this period. She was unable to work the day after the pains came on. Six months previously she had been operated on for appendicitis, with the understanding that this would relieve the pains in her side.

Examination showed that, in addition to her other troubles, she had a simple goiter. Her appearance was decidedly anemic. There was a presystolic murmur of the heart, and her pulse was at all times over 100. Urine analysis was negative. Examination of the abdomen disclosed a small sinus in the appendicular scar, which was discharging because the remnants of a stitch had been left behind. The abdomen on the right side showed tenderness and sensitiveness to pressure which extended above McBurney's point. Patient denied having had gonorrhea or miscarriage. Vaginal examination showed the uterus somewhat enlarged, retroverted and very tender. The right side showed considerable thickening and swelling of the pelvic cellular tissue with the presence of an old exudate. In this case, not being able to palpate the tubes, I was not sure that there might not be a pyosalpinx. I gave the patient a very careful pelvic massage which caused her some pain. I then prescribed hot sitz-baths and tonics and advised her to keep off her feet for two weeks; this she said she could not do. I continued this treatment for four months, at the end of which time the mass on the right side had entirely disappeared. The patient suffered very little pain; the flow was increased to two and a half days, and she was able to work every day while menstruating.

CASE 3.—F. M., aged 29, German, single, first came under my observation eight years ago. Her mother died of cancer of the breast, aged 51. Father died of chronic interstitial nephritis, aged 65. The patient had had the usual diseases of childhood but had always been well up to her twenty-first year. Her menses appeared at 14 and she was perfectly regular for the following seven years; she then began to suffer with cramp-like pains and a dull heavy ache in the left pelvic region. She also began to have backache, especially, if she had to be on her feet for any length of time. After her menses stopped there appeared a milky discharge. At each succeeding period these symptoms increased and the pain continued at intervals in her side, even after she stopped flowing. After a time she suffered from pain daily, so that she was unable to lift anything without holding on to her side. The gonorrheal discharge persisted. During the first day of menstruation she was compelled to remain in bed. She had been under treatment for three months when she came to see me, giving the above history.

Vaginal examination showed the uterus small and acutely anteflexed. There was extreme tenderness on both sides of the vagina; in fact every part touched was sensitive, and the tubes and ovaries could not be palpated. Examination of secretion taken from the cervix showed gonococci. I then gave the customary tampon treatments with hot douches, tonics, fresh air, etc., with an application of 10 per cent. silver nitrate solution to the cervical canal. I continued to treat the patient at least once a week for nearly a year. She improved in strength, suffered very little with backache but was compelled to remain in bed during the first day of menstruation.

On November, 1911, she again came to my office and said that she would like to begin treatment as she was just as bad as before and had lost nearly forty pounds. On examination at this time I found the uterus still undersized and anteflexed. There was not so much tenderness and pain from the examination; the tubes and ovaries could be easily palpated bimanually, showing no evidences of enlargement or tenderness; but running from the cervix, both right and left, scars of the parametrium were very easily felt, together with a shrinking of the cellular tissue. Placing the parametrium on a stretch caused so much pain that I took more care not to overstretch it. The diagnosis made was of parametritis on both sides and hypoplasia of the uterus. I gently massaged the parametrium on both sides, making the movements away from the uterus; then I inserted a tampon of boroglycerid to relieve as much of the congestion as possible and advised daily sitz-baths with rest for the remainder of the day. At the next visit the patient said that she was sore and tender for two days after her last treatment but after three or four applications of pelvic massage she did not experience further discomfort as a result of the treatment. I continued this method twice a week for two months and then once a week for five months. In two months the pains preceding and following the periods were relieved, as was the backache, and at the end of the sixth month the patient was entirely free from pain and was able to attend to her work on the first day of menstruation, which she had not been able to do for a period of eight years; she said, "I can now lift ordinary objects without having to double up with the pain in my side."

The leukorrheal discharge was not influenced to any marked degree by treatment, and as I could not promise a cure by curettage, she stated that she would let that continue so long as she was free from pain, and that she would stick to her douches which she had done religiously, never having omitted the use of the vaginal douche a day for eight years.

Case 4.—Miss S., aged 21, consulted me Feb. 17, 1912. Family history was negative. The patient had never been sick, beyond the ordinary diseases of childhood and some slight attacks of fermentative dyspepsia. She stated that she began to menstruate when 11 years old, and that her menstruation was regular and without any disturbance to her health until she was 18, at which time she noticed that she had, during menstruation, pains on both sides of the pelvis and that these pains continued between the periods and increased and made her suffer more while on her feet.

She was then examined by a physician in another city, who told her that the uterus was tipped back against the rectum. She took treatments for two months, without relief, before she came to this city. She then placed herself under the care of a physician here, who tried various pessaries to hold the uterus in position, but without success. The following month she had a ventrofixation performed. After she was able to be up and around, she was again placed on tampon treatments, but while she got some relief from the backache, the pains before and during menstruation were not relieved, the discharge continued and she was sick and nauseated on the first day of menstruation. She denied having had any gonorrheal infection or miscarriages.

Examination showed a long narrow vagina and a cervix eroded over its whole area; from the patulous canal exuded a thick, tenacious yellowish discharge, which could be removed only by an alkaline solution. The uterus itself was normal and in proper position. Bimanual palpation revealed tubes of normal consistency. The left parametrium was contracted and had numerous scars running from the cervix, which was very painful and tender when stretched. The right parametrium, anteriorly, was also painful and sensitive but was not so contracted as the left. I applied pyroligneous acid to the cervix and massaged the parametrium on both sides. I continued pelvic massage twice a week for four months, after which time I gave one treatment a week for two months. I also applied tampons containing boroglycerid and ordered hot sitz-baths once a day.

At the end of six months' treatment the patient had no pains in her side, was not sick and nauseated while menstruating, and now flowed for five days instead of seven. The discharge, which was undoubtedly due to the cervicitis, stopped very quickly, and the erosions on the cervix yielded quickly to the applications of pyroligneous acid. The only inconvenience which the patient suffers now is from a slight pain for a few hours at the time of the appearance of the flow.

I have had two other cases similar to the above, about which I shall not go into the details. One patient, a married woman, complained of pain above the appendix and examination of the abdomen showed that she was very tender and sensitive to pressure around and above McBurney's point. Bimanual examination showed shortening and thickening of both uterosacral ligaments. The uterus was drawn up and lying to the right side, where the fundus could be felt, lying over the appendicular region. Bimanual massage completely relieved this condition in a few months.

The other patient, also a married woman, following the birth of her only child, had infection and a perineal tear, the right levator muscle being torn completely through. She had considerable scar tissue in the right parametrium which was improved by massage, after which I brought the levator muscles together, relieving her of all her pelvic symptoms.

I realize that the report of these half dozen cases does not form a sufficient basis from which to draw exact conclusions concerning the treatment of pelvic diseases; still, the good results obtained speak favorably for that system of pelvic massage which is the routine treatment in some of the large foreign clinics for old pelvic inflammatory conditions.

508 James Street.

HOW MAY WE REDUCE THE MORTALITY FROM CANCER OF THE UTERUS?

WITH SPECIAL REFERENCE TO TREATMENT AND TO PUBLICITY THROUGH THE LAY PRESS

H. J. BOLDT, M.D.
NEW YORK

We may first ask, What is cancer? At this time we know only that it is a new growth, made up of elements which, single, are normal in the human organism. In the disease termed "cancer," these elements are in abnormal sites and are grouped abnormally. The principal avenue for the dissemination of cancer elements, we have learned, is that of the lymphatic system, since those glands become affected quite early in the immediate neighborhood of the morbid growth. We are told that cancer elements may also be disseminated by the bloodstream; but of this we have no conclusive proof, and I myself have some doubt as to its correctness.

Unfortunately but little progress has been made in cancer research, despite the fact that a very large number of scientific professional men have closely applied themselves to the study of the dreaded disease. That it is of parasitic origin—caused by a microscopic germ—we have no proof whatever. Indeed, the cause of cancer is still a dark mystery. We know nothing definite concerning it; and but very little of what we do know of the disease is of practical value to those afflicted with it. In fact, the only statement of practical value that we can now make is this: When the growth is in a very early stage and accessible to the knife of the surgeon, it may, in a large number of instances, be removed permanently by this means.

Regarding cancer of the uterus, of which I wish now to speak particularly, we know that, while no period of life is exempt from it, the years between 40 and 50 are the most common for its occurrence.

Most members of the medical profession being agreed that when cancer is diagnosed in an early stage it can frequently be cured permanently, the responsibility then rests on us to make diagnoses sufficiently early, if the patients present themselves to us for examination.

SYMPTOMS

We know that cancer is most insidious in its onset. So insidious is it that many patients with cancer of the uterus have no marked symptoms at all until the disease has passed beyond the limit of operability. Yet, on the other hand, we have seen patients who were treated with local applications for "ulcerations" of the uterus until too late for a radical operation without a hint from the physician that it might be a serious condition. Then, too, there have been cases which were not even examined, the patients being told that the profuse or prolonged menstruation or the intermenstrual loss of blood was caused by "change of life." They were given internal remedies and told to take the medicine until they were better.

We know that a cancerous degeneration sometimes occurs on the surface of an erosion; but, in the very early stage, we can make a positive diagnosis only with the aid of a microscope. And, right here, I want to emphasize the importance of a competent pathologist, because occasionally the diagnosis is very difficult and only an expert can correctly interpret the findings.

There are no early symptoms peculiar to the incipient stage of cancer of the uterus. The earliest symptoms of uterine cancer are leukorrhea and atypical bleeding. The atypical bleeding may manifest itself in "spotting" after sexual intercourse—particularly in the type of cancer known as "cauliflower growth" (or epithelioma of the portio vaginalis), in prolonged menstrual flow, in irregular intermenstrual bleeding or in return of bleeding from the genitals after the menopause.

Leukorrhea is, as a rule, an earlier symptom than bleeding. This is particularly true of epithelioma. When the new growth has progressed to the stage of disintegration, we necessarily have more or less atypical bleeding, sometimes amounting to profuse hemorrhage —this cannot occur until the new growth begins to break down — and the leukorrhea becomes more profuse, putrescent and irritating. When the atypical bleeding manifests itself only in prolonged or more profuse bleeding at the menstrual period, in women in whom the disease occurs before the menopause, the abnormal loss of blood is probably caused by inflammatory changes in the endometrium.

Every woman who is "spotting," who has atypical losses of blood from the genital tract, who has profuse leukorrhea, particularly when past the fortieth year—and still more important is even the slightest loss of blood in women who have passed the menopause—should be carefully examined, because these symptoms are also early symptoms of cancer. When a physician is in doubt about the diagnosis, he should, in justice to his patient, get the opinion of a recognized specialist.

Cervical tears, accompanied by erosions, should be treated locally, and the laceration repaired, because, occasionally, such condition becomes the seat of cancer.

When a patient with cancer of the uterus is examined, the rectovaginal examination should always be used, because only with it can the parametria be properly palpated.

A cystoscopic examination should always be made in uterine cancer, although one cannot rely on the infallibility of the result of the examination, since at times it will be found that the bladder is markedly involved when the cystoscope failed to show such extent of the disease. To a certain extent, then, we must consider every abdominal operation for cancer of the cervix an exploratory operation. We know that cancer, if left to its natural course, is fatal in nearly all instances. Only occasionally there occurs a case of spontaneous cure by some means not yet clear to us. We also know that if the growth is diagnosed so early that the surgeon can remove all affected parts, a large number of patients are cured permanently by operation.

Cancer of the uterus is frequently so far advanced by the time a patient consults a physician that a radical operation with any hope for a cure of the disease is impracticable. Indeed, in many cases a palliative operation is all that can be done.

PUBLICITY

This brings up the question as to what are the most effectual means of reducing the high rate of mortality from cancer of the uterus. Next to the tuberculosis problem, this is the most important problem that has come recently before the medical profession, and particularly before those who make a specialty of diseases of women. The general answer, stated briefly, has been: Knowledge of the early symptoms of cancer of the uterus should be disseminated through the medium of the newspapers and magazines. So strongly was this emphasized on a number of occasions that, at the Clinical Congress of Surgeons of North America, held recently in this city, a committee was appointed to devise a method of securing such publicity.

Since 1905 efforts have been made through the American Medical Association to reduce the mortality from cancer of the uterus, and in THE JOURNAL will be found a short summary[1] of the chief points in connection with the disease, as reported by the committee.

The report of the committee at the Boston meeting[2] is ideal. If publications are to appear in the lay press, the method recommended by the committee is the only one that is strictly ethical. The printing of articles with the name of the medical writer attached is, in my opinion, reprehensible. All articles, from A to Z, should, as suggested in the report, bear the stamp of approval of the American Medical Association.

While it is evident from the excellent report of the Board of Public Instruction on Medical Subjects[3] presented to the members of the House of Delegates of the American Medical Association that difficulties were encountered in connection with the general publicity question, nevertheless, I believe that, to a degree, conditions have changed, and that the obstacles there mentioned could readily be overcome, simply by placing matters in the hands of men possessing influence with the lay press. Thus the publications, if decided on, could be made in harmony with the high standard required by the majority of the medical profession.

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[1] THE JOURNAL A. M. A., July 22, 1905, p. 283.
[2] THE JOURNAL A. M. A., June 16, 1906, p. 1878.
[3] THE JOURNAL A. M. A., June 19, 1909, p. 2057.

To repeat: Nothing should appear in the lay press save that which meets the approval of the American Medical Association. A few months' delay is of no great significance.

In this publicity undertaking we are following in the footsteps of Germany, where the dissemination of knowledge by similar means was begun by Dührssen of Berlin, many years ago, and, later, on a more extensive scale, by Winter of Königsberg. Without discussing the merits of the proposed plan, which on the surface appears admirable, I come at once to the practical side and ask what has been the result in Germany of publicity disseminated in this way?

During the past summer I had an opportunity to converse with a number of men who are connected with university hospitals there and who studied carefully the question of publicity. Those to whom I put my questions assured me that they did not find any advantageous result. They had seen no larger percentage of operable cases, since the "Winter" circular letters had been sent out, and since the lay press had published articles written by Winter on the subject of uterine cancer. What they had observed, following the general publicity in the lay press, was that "a goodly number of neurasthenic women were made more nervous and consulted physicians in fear of cancer."

It is my opinion, strengthened by this information obtained abroad, that we are not likely to get under observation a larger percentage of incipient cases of cancer of the uterus by giving the cancer symptoms to the public through the medium of the lay press. On the contrary, it is more than likely that of the large number of women suffering from leukorrhea, those of the neurasthenic type will simply acquire an aggravation of their nervousness, with this result: They will rush to physicians for examination, and, if told they have no malignant disease, will be distrustful, and seek the advice of others. I am convinced, therefore, that the better way—the only rational way, indeed—is to impress on the profession the grave importance of being conscientious in the matter of examination, and never superficial.

Let the teaching on this particular subject to the laity come from the family doctor and not through newspapers and magazines. We know that since the public has been educated to the danger of cancer of the female breast, women, as a rule, do not hesitate to submit to an operation for such afflictions. How has the public been instructed in this case? Certainly not by the lay press, but by physicians in direct intercourse with their patients. And as a result of this teaching, the word has gone from woman to woman: "If you have a lump in your breast, lose no time in consulting a doctor"!

Formerly I too regarded such publicity as is now advocated the best means of securing a larger percentage of operability. But, since learning the experience of confrères abroad, I have become convinced that a far better way is the one I have not infrequently advocated heretofore. when speaking or writing on this subject. To bring about a lower mortality from cancer of the uterus it is only necessary that members of the medical profession should use in practice what they so well know in theory concerning the occurrence of first symptoms in this dread disease.

From my own point of view more practical benefit would be gained by impressing on physicians the grave risk of treating with internal or local medication, before having made sure that no malignant-condition was present, a patient who has even the slightest suspicious symptom. The family physician, in his confidential relation, is the one to teach women the danger of neglecting to consult if even the slightest suspicious symptom be present. That the training of the profession, particularly of the younger members, in this direction, is already beginning to bear fruit is shown by the increase in the number of women seeking consultation for the purpose of diagnosis as to the presence or absence of cancer.

It is of far greater importance that, in all instances in which there is the slightest suspicion, the general practitioner shall *make absolutely sure that cancer is not present*, rather than that he shall definitely diagnose its presence. Only through such conscientious method will gynecologic surgeons be enabled to get tangible results from their efforts to guide their professional brethren in this direction. Nor until the medical profession becomes resolved that in cases that present even the slightest subjective or objective symptom of cancer, it is the moral duty of the physician to use every available method to negate a cancer diagnosis, before he allows the patient to pass from under his observation, shall we be able to reduce the mortality from uterine cancer. If, however, we can bring about such scrupulous practice as this, I am confident that the percentage of radical cures by operation will increase 50 per cent.

Of every curetting the scrapings should be examined. From every cervix that appears suspicious of cancer enough should be excised for a microscopic examination.

When the diagnosis of cancer has not been positively excluded such patient should be constantly under the observation of her physician.

TREATMENT

A diagnosis of cancer of the uterus having been made, what is the best method of treatment?

Without hesitation I favor the extended abdominal operation for the greater number of patients. The exceptions to this general rule are patients who are very obese; cases of cancer of the body of the uterus, when the uterus is freely movable, and cases of incipient epithelioma of the vaginal part of the cervix. (In somewhat advanced cases of cancer of the cervix, it is impossible to determine, with certainty, from what part the disease originated.) But in connection with the latter class of patients the personal point of view enters very largely into the determination of the incipient stage, operable cases, the border-line cases and the inoperable cases.

Recently I saw the extended abdominal operation done on a patient from whom a small area from an eroded portio vaginalis had been excised, and the pathologist's diagnosis was cancer. From what I saw, I would have called that an instance of the incipient stage of cancer, and subjected the woman to a vaginal hysterectomy. Patients in whom the disease had passed what I would designate as the incipient stage should be operated on by the abdominal route; and the operation should be done extensively; the parametria and enlarged glands should be removed also. The ordinary panhysterectomy —the original Freund method of extirpating a cancerous uterus—is inadequate. The old technic of vaginal hysterectomy is on a par with the operation known as "Freund's operation" so far as remote results are concerned, and it is superior in primary results.

In women who are so obese that it is obvious that an abdominal operation will be technically undesirable, the vaginal operation devised by Schauta, in connection with the paravaginal section described by Schuchardt, should be the method of choice. By the latter method, although the glands cannot be extirpated, yet the parametria may be removed, and quite extensively, though not so extensively as by the abdominal route.

Border-line cases are those in which the disease has advanced so far that while one may find it possible to extirpate the cancerous uterus, it is very doubtful—indeed, improbable—that all malignant structures can be removed. Though some operators unhesitatingly operate radically on such patients, I do not favor the extended abdominal operation under these circumstances, since the primary mortality necessarily is very great, and the remote results are comparatively still more unfavorable. I believe that in cases of this character a palliative operation with an actual cautery is better for the patient, just as in instances at once diagnosed as inoperable by radical means.

In consideration of treatment, *x*-ray therapy is clearly entitled to a place. That numerous patients with cancer in other locations have been benefited by such treatment and that some have been cured is unquestionable, and particularly is this true of epithelioma of the skin.

Thus far, although I have had a number of women subjected to the treatment, I have not seen an instance of marked benefit from the *x*-ray in uterine cancer; but Bumm[4] reports a very interesting observation:

> A woman 46 years old had atypical bleeding and pain in the left side since February, 1912, for the relief of which she came to the clinic in May. The woman was obese and anemic; the cervix was tumid and fixed; the finger came into a rimose cavity with broken-down masses, which, on the left side, was in continuity with the vagina and the parametrium. On examination per rectum it became evident that from the cancerous mass a voluminous infiltration proceeded, going from the left, posteriorly, to the pelvic wall and immobilizing the cervix. Because of the diffuse character of the infiltration a removal of the cancer did not seem possible, and the case was assigned to Roentgen treatment because of inoperability.
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> During the months of June and July the patient was treated at intervals of from one to two days, according to the method described by Haendly at the June meeting of the Berlin Gynecologic Society. In September the treatment was resumed. When, about the middle of October, I reexamined the patient, who had up to that time been receiving 800 Holzknecht units = 1,600 Kienboeck, I was surprised at the improvement in the general and local condition. The patient asserted that the bleeding had ceased entirely; that the discharge, which had lost its putrescent odor, had diminished, and that the pain had quite gone. Instead of the former large crater there was now only a narrow cavity, in which the penetrating finger found no granulating masses. The cervix was hard and callous; the former diffuse infiltration toward the left side was transformed into a hard tumor, which could be well distinguished from the pelvic wall; and it and the cervix were mobile. Under these circumstances operation seemed possible. It was advised; and on October 22 it was done.
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> At the vaginal preparatory treatment but little tissue could be scraped away with the sharp spoon, as it came into contact everywhere with hard, creaking tissue.
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> When the abdomen was opened the pelvic peritoneum was found whitish and callous; the adnexa were agglutinated into one mass with the corpus uteri and could be liberated only with scissors.
>
> The hardening and callousness increased on going downward toward the tissues that were the more exposed to the rays. It was necessary to liberate the left ureter with scissors from out of a whitish glistening callosity. The enucleation of the cancerous nodule in the left parametrium left a large cavity, which extended down to the levators; but, because of the marked circumscription of the nodule, the enucleation was accomplished with ease. On both sides enlarged, hard glands were removed from the trunks of the vessels. Smooth convalescence.
>
> From a clinical point of view the case described shows that by vaginal raying large doses may be administered without causing burns of the mucous membrane; and that under the influence of intense raying a hardening of the tissues of the vaginal vault, the cervix and the pelvic connective tissue occurred, which not only hindered further dissemination of the cancer but also after expulsion of the cancerous masses, effected a purification of the cancerous crater and a cessation of ichor and hemorrhage. As the result of the tissue sclerosis the diffuse infiltration of the parametrium became sharply circumscribed from the surrounding structure, and the formerly inoperable cancer became operable.
>
> While the sclerotic changes and retrogression of the cancer-dissemination could also be clearly seen and palpated in the sectioned specimen, the microscopic examination disappointed us somewhat. The lining of the cervical wound-cavity showed everywhere a thin, not visibly changed, layer of proliferating cancerous tissue, which was surrounded first by a thin layer of strongly celled infiltrated tissue and then by a voluminous layer of sclerosed connective tissue, which almost entirely superseded the muscle lamellae. In the parametrium too—in, and even outside of the callus cancer—nests were found; the sclerotic glands were free.

A detailed description of Bumm's case is given because of the importance of the findings in connection with the *x*-ray treatment.

Frequently reports have been published with the statement that inoperable cancer is made operable by this means. But why, I ask, are these patients operated on when improvement is evident? Even taking Bumm's case as an example, might it not be that a continuance of the treatment would have resulted in a complete cure?

We need much more work and observation of this character. I earnestly urge that, when in this class of patients a formerly inoperable cancer becomes operable, the treatment be continued and the results noted. Unfortunately, among my own inoperable cases, I have not seen any so improve under Roentgen therapy as to become operable.

SUMMARY AND CONCLUSION

We know nothing definite as to the cause of cancer.

There are no symptoms which, alone, are characteristic of cancer of the uterus.

The onset of the disease is so insidious that sometimes the neoplasm has progressed to a stage beyond the hope of cure by any kind of operation, before the appearance of a symptom sufficiently marked to cause the patient to seek advice.

The promulgation of knowledge regarding cancer of the uterus through the lay press, as advised at the last meeting of a large national gathering, cannot bring about a lowering of mortality from uterine cancer to such extent as would be the case if the medical profession—the family physician—did the teaching directly.

Information regarding cancer of the uterus in its early stages, through the lay press, is likely to do more harm than good, because there are no characteristic symptoms that apply to that disease alone, and because the principal early symptom, leukorrhea, is one that is present so often in women in whom there is not the slightest suspicion of uterine cancer that such lay articles are likely to aggravate the nervous symptoms already existing in many, and make neurasthenics of some who are not ill.

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[4] Bumm: Zentralbl. f. Gynäk., Nov. 23, 1912.

The family physician must be urged to realize that, in all instances in which there is the slightest suspicion of cancer, his obligation to his patient is to ascertain, by all diagnostic means at his command, that cancer is *not* present, rather than to affirm a cancer diagnosis.

When the diagnosis of cancer has been made, an operation for the relief, or the cure—as the case may be—should be undertaken as soon as possible, since, with our present knowledge, surgery offers the best prospect for the patient.

39 East Sixty-First Street.

REPORT OF A CASE OF PNEUMOCOCCUS MENINGITIS WITH NORMAL CEREBROSPINAL FLUID

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The diagnosis of meningitis in recent times, thanks to lumbar puncture, has been greatly facilitated. That the cerebrospinal fluid is the mirror of the exudative and transudative phenomena occurring in the vascular apparatus of the pia and arachnoid is generally believed. The positive diagnosis of any form of cerebrospinal meningitis is never justified unless the specific microorganism is found in the cerebrospinal fluid.

The dictum of Dunn[1] of Boston that "without lumbar puncture a diagnosis of cerebrospinal meningitis is absolutely without value for scientific, statistical or therapeutic purposes" deserves repetition. It is believed almost generally that negative findings also, if extending over the late stages of the disease, will uniformly enable the absolute exclusion of meningitis. It must now be admitted that positive findings alone in this regard are conclusive, and that an encephalitis and meningitis may be present with a normal fluid. This does not apply to the tuberculous variety, as we now know that, in the later stages, tubercle bacilli are invariably to be found in the cerebrospinal fluid, though at times with difficulty.

Recently Oseki[2] encountered cases of pneumonia in which at necropsy microscopic examination showed a meningo-encephalitis of which there had been no symptoms whatever during life. A similar condition was found in other infectious processes, including typhoid fever. In a series of ten cases of pneumonia this condition was found in four. This means, undoubtedly, that in the past many of our pneumonia patients, whose nervous symptoms have usually been interpreted as meningismus, were really suffering from lymphocytic and leukocytic infiltration of the brain and meninges.

REPORT OF CASE

Baby P., male, aged 1 year, an inmate St. Ann's Infant Asylum, suffered from an attack of measles when 2 months old. May 14, 1911, four weeks previous to the present illness the patient contracted influenza accompanied by a wide-spread maculopapular eruption. Koplik spots were absent. He did not seem to recover entirely from this attack. His nutrition had always been below normal; weight was 14 pounds. He presented the usual signs of rickets. On the 14th day of April I was asked to see him. The nurse stated that she had noticed him failing the previous four days; he would not take his bottle as usual and had been having fever. The onset had been gradual following closely on the attack of influenza.

Physical Examination.—The infant was suffering from malnutrition and rickets the latter evidenced by craniotabes, rosary, and enlargement of the epiphyses at the wrist and scoliosis. There was marked prostration and pallor; pulse 150, respiration 50, slight expiratory grunt, excursion of the alae nasi, temperature 103.5. Baby took but little nourishment; no exanthem or enanthem. Chest and Abdomen: The right chest posteriorly gave marked dulness extending from the spine of the scapula to the liver. This dull area presented marked resistance to the examining finger and extended around the chest to the midaxillary line; Skoda's resonance was not elicited beneath the clavicle. The left chest posteriorly gave normal resonance; no paravertebral triangle of dulness. Anteriorly over right and left chest normal resonance. On auscultation over dull area bronchial breathing heard. Over left chest normal breath sounds except that they were somewhat intensified. Cardiac impulse not palpable, apex-beat located with stethoscope in fourth interspace in mamillary line. Heart sounds clear and distinct, second pulmonic sound slightly accentuated. Liver above at sixth rib, below not palpable. Spleen palpable two finger-breadths below free costal borders. Abdomen neither distended nor unusually flattened. Diarrhea not present. A puncture made over the dull area of right chest withdrew 8 c.c. of clear serous fluid.

Examination of Nervous System.—Baby in a stupor; pupils equal, moderately dilated, reacting to light; no spasticity of the legs, some resistance of the right thigh to passive flexion and extension; knee-jerks increased, no ankle-clonus; Kernig's sign absent, Babinski's sign present; contralateral leg reflex, identical and reciprocal, absent; Brudzinski's neck sign present, rigidity of the neck, no opisthotonos. Marked tendency to opisthotonos if infant was placed in prone position. Fontanelle open about the size of a dime, level with the skull. No paralysis of the extremities; no ptosis, nystagmus, lagophthalmus or facial paralysis. Lumbar-puncture withdrew 4 c.c. of a clear serous fluid drop by drop under less than normal pressure. The bacteriologist, Dr. John W. Marchildon, reported no microorganisms in the fluid and no increase of the cell content. The next morning the general condition of baby was much worse. Prostration more marked, respiration 42, pulse 120, temperature 99.8. Neck sign still present. Death occurred that evening.

Diagnosis.—Bronchopneumonia with exudative pleurisy. Owing to the character of the fluid removed by lumbar puncture, and the frequency of the symptom-complex (meningismus) in infectious processes, the diagnosis of meningitis was not made. The most important single symptom which spoke for this was Brudzinski's neck sign. Absence of a bulging fontanelle spoke against this diagnosis.

Necropsy.—Brain: There did not seem to be a marked increase of the cerebrospinal fluid; the ventricles were not at all distended. Meninges: Convexity and parietal surface of frontal lobe extending back to the parietal lobe was covered by a thick fibrinopurulent exudate. The base was not involved. The exudate showed an organism corresponding in all respects to the pneumococcus. Lungs: Left lung normal, right lung, posterior and lateral surface of middle and inferior lobe consolidated. The pleura covering this consolidated area was occupied by a very thick fibrinopurulent exudate the exact counterpart of the membrane covering the brain. The chest contained 15 c.c. of clear serous fluid. Nothing special in the other organs. Anatomic diagnosis: Bronchopneumonia, fibrinopurulent pleurisy, pneumococcus meningitis of convexity.

Holt[3] has reported a case of pneumococcus meningitis with anatomic findings (meninges) identical with this one in which the cerebrospinal fluid was sterile throughout the course of the disease. He remarks (January, 1911): "We are accustomed to place so much reliance on lumbar puncture that the possibility of the existence of acute meningitis with a normal fluid is rather difficult to grasp."

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[1] Dunn: Cerebrospinal Meningitis, Its Etiology, Prognosis and Treatment, Am. Jour. Dis. Child., February, 1911, p. 95.

[2] Oseki: Beitr. z. path. Anat. u. z. allg. Path. (Ziegler's), 1912, iv, 538

[3] Holt: Observations on Three Hundred Cases of Acute Meningitis in Infants and Young Children, Am. Jour. Dis. Child., January, 1911, p. 26.

In casting about for an explanation of the failure of the cerebrospinal fluid to show the characteristic changes, it would not be necessary to assume a shutting off of the spinal canal. The thick and tenacious character of the pseudomembrane covering the brain with almost no liquefaction of this exudate is sufficient to explain the reason for the failure of the cerebrospinal fluid to reveal the actual condition.

From what has been said above, the following conclusions seem justified:

1. The positive diagnosis of pneumococcus meningitis may be impossible during life.
2. A normal cerebrospinal fluid may be obtained throughout the disease.
3. Anatomic changes (encephalitis, meningitis) occur oftener than usually believed and are the explanation of symptoms from the side of the nervous system which we have regarded in the past as functional (meningismus).

1467 Union Avenue.

THE GRAFTING OF PRESERVED AMNIOTIC MEMBRANE TO BURNED AND ULCERATED SURFACES, SUBSTITUTING SKIN GRAFTS

A PRELIMINARY REPORT

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The use of this tissue for grafting to denuded areas finds its justification in that it is essentially an embryonic offshoot of the skin and is histologically built up of dermal elements.

It is more logical for this purpose than tissues of other animals, being "human" and, as just stated, of skin derivation and hence homologous. It also seems better than freshly cut skin-grafts, eliminating the use of the razor and anesthetic as well as the entailed secondary wound with its numerous inconveniences. Besides these advantages, should this method be found as useful to others as I have found it, there is a negative advantage of inestimable value in that there is no harm done should there be no "take."

Dr. Nicholas Sabella, who cooperated with me in my early efforts to perfect this plan of treatment has been using the amniotic covering of the umbilical cord and that portion of the amnion immediately adjacent to its fetal attachment where it is found to present "amniotic caruncles" which comprise islands of stratified epithelia closely resembling true skin. His results have also been gratifying in the extreme.

The histology, in brief, is that of a smooth, glistening membrane made up of two layers loosely connected and freely movable between the thumb and index-finger. The outer layer, of chorionic origin, is mucofibrous, and the inner, of true amniotic origin, is made up of a single layer of cuboidal epithelia. It is this side of the sac with which we are most concerned, as it is the one which will adhere to the denuded surface, being simply an extension of embryonic skin.

The technic of preserving and fixing the grafts was suggested to me by Dr. Alexis Carrel, who also described his method in a recent paper.[1] In this paper he deals with the preservation in latent life of various tissues, including skin-grafts removed from an infant which had died during labor, and describes his experiments with various mediums such as isotonic sodium chlorid solution, Locke's and Ringer's solutions, defibrinated blood, serum, confined human air and petrolatum. The last and Ringer's solution were chiefly employed, and in these mediums the tissues were placed immediately after their removal from the organism and maintained at a temperature between —1 and + 7 C. (between 30.2 and 44.6 F.). The color and consistency remained normal for several weeks and even after from seven to ten months the microscopic appearance of the arteries was not markedly modified.

In my experiments I have adhered to the above technic but have employed petrolatum and also liquid petrolatum for jars from which parts of an entire amniotic sac were being cut from day to day for cases as they presented, thus avoiding the necessity of reheating the jars after each session, which would have been necessary were I using the thicker medium. Individual tubes of petrolatum containing small specimens are, however, better for stock purposes keeping much longer, as they are exposed to the air for the first time—except before their immersion—just when needed.

Another important aid from the same source was the recommendation of a wax dressing—mixture of paraffin, beeswax and castor oil—to hold the graft in close apposition to the granulatory surface and cause it to conform accurately to the minute inequalities thereof.

The freshly obtained amniotic sac is washed of all blood in a normal saline solution, dried between layers of sterile gauze and immediately immersed in petrolatum which has been raised to the melting point over a water-bath. Liquid petrolatum will serve well when a specimen is to be cut many times and used up within a few weeks. The receptacles are stored on or near ice as soon as possible.

When the denuded surface has been thoroughly cleansed of all secretion and bits of tissue, a section of the graft is spread smoothly, care being taken to press out all air-bubbles. Care should also be exercised that the amniotic or glistening side be placed in apposition to the wound.

The wax, having been warmed to just the degree necessary to liquefy, is now applied with wooden applicators wound with cotton so that a whisk of nearly an inch in length may be saturated and then drawn across the graft without disturbing its position. A fresh applicator is used for each dip to prevent contaminating what remains, and also because the wax hardens immediately on exposure, and the cotton would soon become covered with hard wax and no longer be a soft brush. An outer dressing of cotton and bandage is all that is necessary for protection and absorption.

After two days when the dressing is removed it is found that what seems to be the entire graft is adherent to the wax. This, however, is not what happens. On microscopic examination of this adherent tissue it is found that only the outer or chorionic layer has come away. The two layers have separated and the inner or true amniotic cellular tissue has been taken up by the raw surface.

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[1] Carrel, Alexis: The Preservation of Tissues and Its Applications in Surgery, THE JOURNAL A. M. A., Aug. 17, 1912, p. 523.

Thus far the conditions treated have not held closely to any one group but have included varicose ulcers, burns, scalds and denudations of traumatic origin.

Ulcers.—These were generally varicose ulcers of the leg of all stages of infection and depth of erosion, and in nearly every instance it was necessary to "clean up" before grafting could be thought of. Iodin or strong solutions of potassium permanganate followed with a wet dressing of mercuric chlorid solution 1:2,000 left on two days generally sufficed to subdue the odor and encourage a more healthy appearing surface. After this procedure it is often found useful to stimulate by rubbing briskly with dry gauze, thus removing all sluggish granulations and detritus. The application of the graft and wax with a thick and smoothly applied outer dressing was usually done as described, but occasionally the wax covering was extended over the entire leg below the knee for the better maintenance of the circulation. While the results were much better than anything seen in our experience with other methods, there was not the diffuse even take over the ulcerated surface which occurred in other cases. There were numerous spots or islands of skin and edges which were healthy and grew in rapidly.

Burns and Scalds.—When all bits of dead skin and all foreign matter had been carefully removed and the tissue applied and left on two days, there was almost without exception an even and diffuse adaptation of the graft. In this group, however, there were only eleven cases; these included all degrees, but none more extensive in area than 9 square inches, approximately, and none situated on the face.

Traumatic Denudation.—One case was treated with so satisfactory a result as to justify a more complete description. In this instance the left hand of a laundry worker was caught in a machine and then quickly pulled out, denuding the palmar aspect of the ring and middle fingers throughout the length of the two terminal phalanges. The raw surfaces were grafted but once and after two days were found diffusely and entirely covered with healthy skin so that no further treatment was necessary other than a dry protective dressing, the skin being yet delicate. This case demonstrates the action of this mode of treatment at its best advantage, there being no unhealthy condition of the underlying tissue. In spite of the fact that there is but one case in this group I am encouraged to believe that the result could not have been obtained in any other way, and that the graft took immediately.

In conclusion it is proper to acknowledge that the experiments have been limited to such cases as herein described and that electric, *x*-ray or extensive burns of any sort have not been tried.

Should the amniotic graft do as well or nearly as well as true skin, it must commend itself for general use, obviating, as it seems, the necessity of an anesthesia and the production of a secondary wound with no certainty of the outcome for its justification.

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Newspaper Medicine.—The recording by the lay press of a heroic deed or wonderful act on the part of a physician or surgeon is highly desirable, for it increases the respect in which the profession should be held; but there is no excuse for assisting a writer to project a half-baked truth or an incomplete discovery on the necessarily ignorant public.—B. Joseph in *Vermont Med. Monthly.*

MEDICAL EDUCATION AND THE HOSPITAL *

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Mr. President and Members of the Æsculapian Club: I am delighted to have the opportunity of meeting you and honored by the invitation to address you on the subject of medical education and the part the hospital takes or should take in the making of the modern physician. I accept the fact that this invitation is not extended to me as a personal honor, but because for ten years as chairman of the Council on Medical Education of the American Medical Association, I have been on the firing-line in the battle to elevate the standard of medical education in this country; and I take it that you desire to hear the story that these swiftly moving years have written; to hear what has been accomplished, what the existing conditions are, and what still remains to be done in order to place medical education in America on an acceptable basis; and especially what part the hospital will play in this development.

I shall not deal with statistics or with the rehearsal of ancient history, but I shall attempt to draw a rough sketch of medical education as it was when many of us began to study medicine, in order that we may compare it with the opportunities offered and the courses required in our better schools to-day. In the early eighties, a medical student could graduate after attending two courses of lectures of from twenty-six to thirty weeks each. In many schools an additional year's preparatory reading with a preceptor was required, making three years in all, but as a matter of fact the year with the preceptor too often meant little or nothing in the way of medical education. Once in a while, however, this preceptor year under some old Hippocrates of a general practitioner was the best of all and molded and directed the student's medical career. These courses of lectures were repeated year after year, the second year of the course being a repetition of the first. They were given, in the better schools at least, by masters of their subjects, men who knew the medicine of their time and who knew how to impart this knowledge as well as it could be imparted by lectures. Little was done in the way of laboratory work or in the dispensary or hospital. Read the clinical lectures of Trousseau, the lectures of Paget, the surgical pathology of Billroth; and those of you who did not live through this period can form some idea of the character of the medical teaching done in America by their contemporaries, by such men as Samuel D. Gross, Austin Flint, Marion Sims, Henry Bigelow, N. S. Davis, Moses Gunn and a host of others. It has become rather the fashion to belittle the early American medical schools and the medical teachers who taught in them. Surely this is not warranted by the facts. Medicine was not as yet a science. These old masters taught well what was then known. They struggled under a heavy load; many things which seem clear to the first-year medical student to-day were dark, unsolved problems to them. Do not criticize these men; they were great men. Do not criticize their medical schools and their methods of teaching; they were in keeping with the knowledge of their day.

The truth is that in thirty years a revolution has occurred; a new and great science, the science of medicine, has been born; and the change has been so rapid and so great that even those of us who are not old can reach back and touch the dark days when medicine was not a science. To us the disciples of Æsculapius, there has come with this wonderful change a great opportunity and a great responsibility—to develop a scheme of medical education which will keep pace with the rapidly advancing science of medicine.

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* Address before the Æsculapian Club of Harvard University at Boston, Dec. 7, 1912.

In the old days when the two- and three-year medical courses consisted almost altogether of didactic lectures, seven to ten men with a lecture room or two could conduct a medical school at little expense and as a profitable business. As a result in this growing country medical schools sprang up wherever the rapidly increasing population offered opportunity. The number of schools organized must have been four or five hundred in all during the course of our history. When the American Medical Association first seriously grappled with the problem of medical education through THE JOURNAL of the Association the number of medical schools was 166, about as many as in all the rest of the world. As medicine assumed the dignity of a science it became necessary to put the medical school on a university basis. Since the appointment of the Council on Education a continuous effort has been made by the American Medical Association, largely through publicity in its JOURNAL, to better the situation, and with the assistance of the state licensing boards, the association of American Medical Colleges, the Carnegie Foundation and some of the universities, great improvements have been made. The number of medical schools has been cut down from 166 to about 110 and it seems probable that this number will be shortly reduced to 90 or less as the majority of the state licensing boards have this year refused to recognize thirty or more of the poorer schools. It also seems probable that this number will eventually be reduced to about 60 or 70 schools, which will then all be on a sound university basis.

In addition to the reduction in the number of schools other very great advances have been made. Between fifty and sixty schools now require the students to take one or two years of premedical work in physics, chemistry and biology in addition to a four-year high-school course before beginning the study of medicine. The course has been lengthened to four years in all American medical schools and a large proportion of the graduates from our better schools now serve a year or more as hospital interns before beginning the practice of medicine. Except in a few states, graduation from a recognized medical school requiring four years of study is demanded before the applicant can take the examination for license to practice medicine. Strange at it may seem, Massachusetts and Tennessee are about all the territory still left open to the non-graduate. Within a few years, therefore, we shall have in America about sixty or seventy medical schools. The medical student, after leaving high school, will be required to spend one or two years in the study of physics, chemistry and biology in the university, two years in the laboratory, two years in the clinical branches of medicine, and two years as intern—in all six or seven years in preparation for the practice of medicine.

Before leaving the subject of preliminary education I want to criticize one requirement which has been adopted at Harvard, namely, that of a bachelor's degree for admission to the medical school. There is no fair reason why the anomalous American college course should be sandwiched in between the secondary school and the medical department of the university. Life is too short to compel the waste of two or more years in this way. If a bachelor's degree is required and a hospital internship added, the average age of the class at graduation will be 28 or 29 years—too late an age for a man to begin to try to make a living. In Germany the student begins the study of medicine when he is between 19 and 20 years old; he takes a six-year course, which includes one year in physics, chemistry and biology and one year as an intern in a hospital; he thus secures his license to practice by the time he is 25 or 26 years of age. Twenty-five is a much better age at which to begin the practice of medicine than 28 or 29. I should much prefer to have an intern come on my service in the hospital at 25 than at 29. This is a very serious question and I feel sure from the comparative studies that I have made that it is a mistake to make a bachelor degree requirement. A much better plan is to make one or two years of university science the maximum requirement and even then this should not be generally adopted unless it can be associated with such a saving of time in the secondary school that the average medical student can complete his course by the time he is 25 or 26. I would suggest the adoption at Harvard of the six-year combined course; that is the two-year university science requirement for admission and the intern year as an integral part of your course. Another reason for adopting this plan, and a very strong one, is this: the Harvard medical school should sustain the same relation to New England that the medical department of Berlin does to Prussia or that the medical department of Munich does to Bavaria. It should train the medical men of New England. In order to do this it must be a large medical school and graduate a large number of men. (The Munich school has 2,000 and Berlin 1,800 medical students.) Harvard can never do this with a bachelor requirement which means completion of the medical course at 28. It can do this, however, on the Berlin and Munich basis.

The development of the science of medicine came with the birth of modern pathology and bacteriology and with rapid advances in anatomy, especially in histology and embryology, and in physiology and in the effort, just begun, to make a modern scientific pharmacology. These so-called laboratory branches of medicine have made great strides in the last thirty years. The development of these sciences has made the science of medicine possible. Acknowledging fully the great debt medicine owes to these laboratory branches and without seeking to belittle them in any way, I desire to claim the highest place for clinical medicine itself, the science which utilizes the sciences of anatomy, physiology, pathology, bacteriology, pharmacology, chemistry, physics—in fact, all knowledge—in the effort to seek the cause of disease, to prevent disease, to cure disease, and to relieve the individual of suffering and deformity. I have sometimes heard my laboratory friends say that the only purely scientific side of medicine is the laboratory side, the research side, and once one of them said to me: "What have the clinicians done to compare with the cure of diphtheria by antitoxin?"

What have the clinicians done? Take but a hurried glance at medical history and you will find that the clinicians discovered vaccination, introduced anesthesia, and discovered antiseptic and aseptic surgery; a clinician, Ogston, even discovered the pus microbe; the clinicians have saved thousands of lives by a clinical study of the cause and cure of appendicitis, a work in which your own Reginald Fitz took a leading part. More lives are saved by modern surgery each year in appendix lesions alone than are saved by all the [illegible] so [illegible]iscovered b[illegible] laboratory workers, inc[illegible] theri[illegible] brospinal meningitis, [illegible] k [illegible] thousands of lives t[illegible] through modern aseptic surgery each year! As a clinical triumph which compares favorably with the introduction of antitoxin in diphtheria take the saving of 90 per cent. of our cases of general peritonitis early operated on as compared with the former mortality of over 90 per cent.; consider the splendid piece of clinical research work of Kocher in the surgery of the thyroid gland for which he received the Nobel prize; the modern kidney work controlled by the *x*-ray and other scientific means of diagnosis; the modern bone work made possible by the *x*-ray and aseptic surgery; and the stomach work, gall-bladder work, prostate work, etc.; and in the specialties think of the magnificent work that has been done in neurology, pediatrics, eye, ear, nose and throat, dermatology, orthopedics, in fact in every department of clinical medicine.

I do not wish to make any unkind comparisons or to detract in any way from the splendid achievements of our laboratory colleagues. I do want, however, at the beginning of this discussion to insist that the patient, the living, human being with his diseases, is the unit about which the science of medicine is built; that the study of this living, human being is just as scientific as the study of a rabbit or a guinea-pig or a test-tube full of pathogenic germs; that the hospital and dispensary can and should be as scientifically conducted as the teaching laboratory; that clinical research is as scientific as laboratory research; that the highest type, the ultimate object of all medical research is clinical research in which the effort is made to discover the cause and cure of disease. I must insist also that the scheme of medical education must be directed by the medical man, the clinician, assisted by, but not controlled by, his colleagues in anatomy, physiology, pathology and pharmacology.

In the development of a scheme for teaching modern scientific medicine we must as the first essential have the patient and a place to study him in; that means that the medical school must be located in a large center of population and must be built in and around the dispensary and hospital. We must have the necessary facilities to employ the modern refined means of diagnosis; this means clinical laboratories. We must have facilities to study disease in culture and in animals; this means research laboratories. These clinical and research laboratories must be in connection with and a part of our dispensaries and hospitals. In order to prepare our students for the study of clinical medicine, laboratories of anatomy, physiology, pathology and pharmacology must be provided, so far as possible in close contact with the hospital and dispensary. We must have trained clinical and laboratory teachers. One of the great needs in this country is a system such as has been developed in Germany for the training of teachers and research men. German medicine has been made preeminent by the young men from 25 to 35 years of age working as assistants, devoting five, ten or even fifteen of the best years of their lives to one department of medicine, mastering it, developing it, making themselves trained teachers and research men, capable of stepping into the shoes of their chief, or of filling a chair in some other university. We must adopt the same plan in this country.

To my mind the two great problems which now confront us here in America in medical education are: first, the need of a scheme for the development of trained teachers in medicine; and second, the need of the right sort of affiliation between our great hospitals and university medical departments, and the education of hospital trustees to the importance of the educational research functions of the hospital.

The first need as I have already stated I think can best be met by adopting the German plan of having assistants serving many years in one department. This should be applied in both laboratory and clinical departments. It is very desirable that the teacher of anatomy or physiology, pathology, etc., in a medical school should be a man with a complete medical training, including a hospital internship. It is essential for him to have the medical point of view. It is a mistake to put a man direct from the laboratory sciences, no matter how brilliant, into a clinical chair. Laboratory training is most desirable but these men in addition to their laboratory training should serve their five or ten years of apprenticeship as assistants in clinical work.

In solving our second problem, we may again turn to Germany for aid. In this country the medical school has been developed independently of the hospital. In England the medical schools were developed in the hospital, the attending medical men forming themselves into a faculty to teach medicine. In Germany I think we find the right relationship. In no German city is there more than one university and therefore no German city has more than one medical school, as all the German medical schools are medical departments of the twenty German universities. It has not been difficult therefore in Germany to make a close affiliation between the great municipal hospitals and the medical departments of the universities. This is the condition which we should strive to bring about in this country.

This cooperation of the municipal hospital and the general hospital supported by private endowment with the medical department of the university must be brought about in America, and how this is to be done is one of the most vital problems presented at the present time to our great charity hospitals and our universities. The welding of the great charity hospital and the medical department of the university is one of those affiliations which is of great mutual benefit. That such cooperation is of service to both institutions and to the community at large is well shown by a study of the great clinics in the German universities where such combinations exist. We must bring about such a condition of affairs in our great American cities. Wherever I have discussed this matter I have been met by two classes of arguments: one, that on account of our political situation it will never be possible to take our great municipal hospitals out of political control; and another (presented by a group of men, especially laboratory men who know little about clinical medicine and hospital conditions) that the ideal solution would be for each university medical department to have its own university hospital and provide its medical students with patients just as it provides them with test-tubes and guinea-pigs in the laboratory. What is clearly the answer?

This question must be looked at from the broad point of view of the community as a whole; from that point of view it is an economic wrong for the university to conduct a hospital for the sole purpose of teaching and research, and a sociologic crime for the municipality to conduct a hospital as a boarding-house for the care of the sick without any regard for the educational and research functions of the hospital. In the interest of the community, therefore, this union of forces is demanded. The hospital should provide for the care of the sick and the university should provide for the teaching and research function of the great hospital. The two bodies, the administrative and the medical, each have their separate functions to perform. They need not and must not conflict. And it is only by working together in the same institution that the best results can be obtained. This solution is the only correct one. It must come about because it is the right solution. We must bring about as soon as possible these affiliations between our universities and the great hospitals which are so fortunately situated that they can secure the advantages of such university connection:

The medical school must enter into a partnership arrangement with the hospital and dispensary. In cities where there is but one medical school this will be an easy matter; in cities like New York, where there are several schools which will probably continue, a plan of cooperation must be entered into. Our municipal hospitals must be taken out of politics. The best practical way of meeting this problem is to make a long contract or arrangement between the hospital and the medical school, giving the medical school the right to nominate the attending staff subject to confirmation by the hospital trustees. This medical staff should then have charge of the medical arrangements of the hospital. The salaries of these men should be borne by the university and not the hospital. Special facilities for teaching should be provided by the universities, but the expense of conducting clinical laboratories and research laboratories in the hospitals should be borne by the hospital as a part of its own work. The medical management and the hospital management must work together as partners and not in the position of employees and employer. A small executive body composed of the head of the board of trustees, the hospital superintendent, the head of the training school and two or three medical men should meet often, at least once a month, best at the hospital at lunch-time, and discuss all the important business so that there can be good team-work among the various departments of the hospital. The medical service of course must be continuous and each department should be under a single head, who should also have charge of that particular subject in the college and in the dispensary. Appointments and promotions should be made on the nomination of the president of the university, the dean of the medical school and the head of the department, these of course to be confirmed by the trustees. In each clinical department, the three functions, the teaching of medicine, the training of teachers and research workers, and research itself should be developed. Each man in the department should be doing clinical work, teaching and research work.

In addition to a large general hospital the medical school should make affiliations, as done here at Harvard, with special hospitals, orthopedic, children's, maternity, eye and ear infirmaries, hospitals for infectious diseases, etc. There are two other points which I should like to discuss.

First, who should be appointed as hospital attending men and as clinical teachers?

Second, how should the hospital with its outpatient department be used in teaching medicine?

The answer to the first is that we should appoint the strongest man who can be secured for the place. In regard to this question there has been during the last few years a somewhat heated discussion. Shall we appoint men to our clinical chairs who will devote their entire time to teaching, hospital work and research and who shall do no private practice for fees and whose income shall be limited entirely to the salary of his chair? This position has been under consideration by a number of university authorities and was championed quite strongly by Abraham Flexner in some testimony given before the Royal Commission which recently investigated the subject of university teaching in London. I think the men who take this view do not fully understand the situation. Flexner, as I understand his testimony, cited, as examples where this was carried out, the clinicians of Johns Hopkins and of the German universities such as Friedrich Müller of Munich. As a matter of fact in neither Germany nor Johns Hopkins are the clinicians restricted in any way in their personal right to employ their medical and surgical skill as they see fit. It is of course unfortunate when, as sometimes happens, a clinician called to a chair in an important university proceeds to capitalize the reputation of the university and makes it pay handsome dividends into his own pocket; but on the other hand it would be unfortunate for American medicine if our great university clinicians were placed in a position where their services were rendered exclusively to the poor, and the well-to-do were deprived of them. Here again we must turn to Germany as a model. I am quite willing to accept Friedrich Müller as an example to be followed here. Müller himself does not think that it would be well to deprive the clinical teacher of the right and opportunity to do a limited amount of private practice. He believes that the university teaching and hospital and research work should have the first call on the teacher's time and that he should devote the greater part of his hours and energy to these. On the other hand he feels that to deprive the clinical teacher of the right to practice would separate him from the medical profession, and he would soon lose the broad point of view of medicine so necessary in one who is training medical practitioners.

I feel that it would be a very great mistake to put our clinicians on a rigid salaried basis and divorce them from the practice of medicine. It would fill our university chairs with mediocre men and deprive the medical school of the services of the best brains in clinical work. Besides it is not necessary, in order to insure the best clinical teaching and research work, to deprive the clinician of his right to charge for his services. Make provision in the teaching hospital so that the head of the clinical department can have a consulting room and a few private rooms. Let him take care of his private cases with the same team and laboratory with which he does his charity work. A man who pays a fee for an operation or a consultation is just as valuable a unit in a clinical research as the charity patient. It is unfortunately true that in this country we have not as yet developed the right type of clinical teacher in our medical schools. We should do as they do in Germany: fill the clinical chairs with men who are university professors, and who will devote the necessary time to teaching and research. In addition to the clinical teachers of the university type the medical school should utilize as extramural instructors the well-trained clinicians with good hospital and dispensary appointments in outside institutions.

How should we use the hospital and dispensary for clinical teaching? In the present period of reorganization of medical teaching in this country there is a tendency to try out a number of different plans, and we have naturally turned to Germany and Great Britain for models and have tried out some original ideas of our own. I do not think that we could do better than adopt the general plan of the German university medical school, which so far is the best that has been developed. It is not perfect and I think we can improve on it in several particulars, especially in better supervision of the students and in the far greater value of the intern year in America as compared with the present compulsory hospital year in Germany. The hospital year has not been satisfactory in Germany so far because the permanent assistant has crowded out the intern and given him no opportunity. In the ideal seven-year course in medicine which will shortly be the generally adopted medical course in this country, four years will be devoted to physics, chemistry, biology, anatomy, physiology, pathology and pharmacology, and three to clinical medicine, the first two in the medical school, the last in internship in the hospital. How shall we handle these three clinical years?

From my study of this subject during the last ten years I have been forced to the conclusion that there is little place for a scheme of elective studies in the undergraduate medical course. The medical man, no matter whether he is to be a general practitioner, a specialist, a medical teacher or a medical research man, must have as a foundation to build on at the very least that general knowledge of the sciences which can be obtained in the limited time of the medical course. The time is so short, there is so much to learn, that if he makes an attempt to specialize he necessarily neglects some phase which is essential to a well-rounded view of the entire subject.

First, in these clinical years provision should be made to continue the studies of anatomy, physiology, pathology and pharmacology as applied to clinical medicine, as well as for taking up the purely clinical subjects. The method of dismissing these subjects after a term or two of work is a great and serious mistake. The fundamental sciences on which medicine is based should in some form be carried throughout the entire course. In this way much better team work can be done between the physiologist, for instance, and the teacher of clinical medicine and surgery. Possibly I can best illustrate my conception of the clinical course by outlining the clinical work in the department of surgery with which I am most familiar.

In the third and fourth years of the medical college course proper there can be fairly assigned to surgery from five hundred to six hundred hours, that is from two hundred and fifty to three hundred hours each year. How can this amount of time be best employed? The ground that must be covered includes courses on surgical anatomy, surgical pathology or principles of surgery; regional surgery, including the surgery of the head, neck, thorax, abdomen and extremities; operative surgery on the cadaver and animals; orthopedic surgery, genito-urinary surgery, dispensary clinics, large amphitheater demonstration clinics and small ward hospital clinics. In passing let me say a word in defence of the amphitheater clinic which has lately been criticized and in some schools done away with. I believe that here as in Germany we must retain the large amphitheater teaching clinic of the chief as the back-bone of each clinical department. Visit the teaching clinics of von Eiselsberg, of Garré, of Kocher, of Krause, of Müller and you will find them the most instructive and the most essential work of their courses. The large amphitheater clinic of the chief must of course be supplemented by small section work done by assistants and by the other courses above outlined. Now when you make provision for all of these courses, what is there left of the five hundred or six hundred hours which have been allotted to the surgical department? Very little time to give a thorough hospital training. The point I want to make is that in a well-organized surgical course there is not enough time in the third and fourth years to give a thorough hospital training to the senior student. The only way out of the difficulty is to add a hospital intern year and make it an integral part of the medical course. There is another reason, too, why this should be done and a very important one, especially as applied to the department of surgery, and it is this: that the young medical man can in fairness to the patient and to himself handle serious hospital surgical cases only when he has become a part of the medical or surgical machine which is providing proper medical and surgical care for the patient; that is when he is a hospital intern.

The dispensary offers the best opportunity for the clinical teaching of the third and fourth years and it is usually the most neglected. Of the two a complete well-organized teaching dispensary is of more importance to a medical school than the hospital. The dispensary should be under the direct control and management of the chief of the department and his assistants, and if properly utilized it will furnish the bulk of the material needed in undergraduate clinical instruction. I do not wish to belittle in any way the value of the clinical training in the hospital; but the point I desire to make is that the amount of time that can be allotted to hospital work in a well-rounded medical curriculum of four years is so small that at best it is but an introduction to the real hospital work which must follow, that is that of the hospital intern. Is it possible to provide hospital internships for all the graduates in medicine? The Council on Medical Education is now looking into this matter fully and within a year or two will make a report on the relation of the hospitals of this country to medical education, and with special reference to the question of a compulsory intern year.

We can say now, however, that there are more than four thousand hospitals in the United States with more than two hundred and fifty thousand beds. There are at present about four thousand men graduating each year in medicine. Estimating twenty-five patients to each intern, this would make places for ten thousand interns or would furnish the four thousand graduates places in the better 40 per cent. of the hospitals. The requirement for the intern year will come from the state licensing boards. Each medical school should see that a committee on the intern year makes a list of acceptable approved hospitals open to its students and that each student is provided with a hospital appointment; if possible some affiliation between these hospitals and the medical school should be made so that the faculty can keep in touch with the hospital and student and satisfy themselves that the hospital service is of value and that the man has done acceptable work as an intern.

I have had the pleasure and opportunity in the last two days of looking over your medical school, your hospitals and dispensaries. I believe that you have here in Boston an opportunity to develop one of the great medical schools of the world. In order to accomplish this you must build on a broad foundation. The three great functions of a medical school must be recognized as essential and each one properly performed, the making of practitioners of medicine, the production of trained teachers and research men and lastly medical research work itself. Make your school so big and broad that its great opportunities will not be limited to a few men but will produce well-trained scientific practitioners for the large territory that is within your sphere of influence. Develop a great number of trained teachers and research men who will carry the torch to other institutions and other communities. Seek to master the great unsolved problems of the cause and cure and prevention of disease so that from your laboratories and clinics there may come great medical truths that will prove of service to all mankind.

As individuals and as a university take an active, enthusiastic part in the great progressive movement which has been initiated and is being carried on by the American Medical Association, which has for its purpose the raising of the standards of the profession and the securing to the public the great benefits offered by modern, scientific medicine.

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THE PHILOSOPHY OF MASTICATION

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The chewing of our food is a subject of more or less interest to all of us. Beginning with the precept inculcated in every nursery, we are constantly admonished throughout life that thorough mastication is a prerequisite to health; while a rather recent school of thought contends that the whole process of bodily nutrition is markedly affected by the preliminary treatment of food in the mouth.

Mastication is an entirely voluntary act, while the performance of swallowing is a complicated reflex movement, which may be initiated voluntarily, but is, for the most part, completed independently of the will. Under normal conditions the presence of moist food on the tongue seems essential to the completion of this act, and I might add that a pleasant taste, coupled with a favorable mental attitude, still further facilitates the passage of food down the esophagus.

Too rapid eating, or tachyphagia, is a frequent fault, and has no doubt caused many digestive qualms, besides being the starting-point of many chronic disorders of the alimentary tract. This I admit. What I do *not* admit, however, is the necessity for slow, deliberate and systematic mastication as a sine qua non for health in every individual, irrespective of temperament or station in life; nor do I believe it conducive to the best work of the digestive organs that a hard-and-fast rule be enjoined, whereby a certain stated period must be devoted to the mastication of a meal, regardless of the pleasure of the masticator.

From time to time apostles of deliberate mastication, or bradyphagia, have appeared on the horizon, the most prominent of these being Mr. Horace Fletcher, whose work, "The A. B. Z. of Our Nutrition," is so largely devoted to this topic, and who so well pleads its cause, that slow eating has come to be called "fletcherism"; and to chew and insalivate food until it liquefies in the mouth is to "fletcherize" it, according to the nomenclature.

Mr. Fletcher is an American, who, when middle-aged, obese, dyspeptic and discouraged, discovered that by slow and deliberate eating his health improved, and began to elaborate this supposedly new principle. Asserting that he literally chewed himself back into health, he also argued that by the extreme mastication and insalivation of food, appetite is satisfied with a much smaller amount than is ordinarily craved, while at the same time bodily and mental well-being is greatly enhanced.

Mr. Fletcher was really anticipated by Mr. Gladstone, who, as the first advocate of this fad in England, attributed much of his success in public life to the fact that he had always made it a rule to give every tooth a chance, counting thirty-two bites for each morsel.

Under Mr. Fletcher's skilled exploitation, mastication as an art has grown and budded and blossomed until it has become a new theory, so popular that any one seeking to impede its continued fruition is considered by many either an iconoclast or an ass.

As regards the protein constituents of food, insalivation exerts but little effect. We well know that either the pepsin and hydrochloric acid in the stomach or the trypsin beyond will attend to them, if they are decently comminuted, and their stay in the mouth need be only long enough to originate those psychic impulses which Pawlow has shown us regulate the subsequent flow of digestive juices. Carnivorous animals and reptiles habitually bolt their food, and zoologic history furnishes no record of any psychic forms of dyspepsia in these creatures. The essence of salivary digestion is the transformation of starch into sugar by the action of the ptyalin, and that process, though inaugurated in the mouth, continues until the whole of the stomach contents has become acid. The time of salivary digestion is brief, and to be effectual should be energetic. No more should be expected of it than a preliminary act. The pancreatic and other juices beyond the stomach will care for the starches, if only the psychic centers forward the tidings as received by the gustatory senses.

As to the method or comparative rapidity of chewing, I might say, and say correctly, it is to a great extent temperamental. As some people can perform a stated task, and perform it well, in half the time required by slow-moving individuals; and as some people move quickly, speak quickly and think quickly, so they also chew quickly, but well. By those ardent and strenuous spirits who are happiest when in the busy turmoil of competitive struggle, the act of mastication is naturally performed briskly, but none the less adequately. To that other class, who desire to meander through life in a leisurely way, "far from the madding crowd's ignoble strife," to those semivaletudinarians whose gastronomic powers are under constant mental scrutiny, fletcherism promises the fountain of youth.

Another objection to interminable mastication is the brevity of life. In one place Mr. Fletcher relates that one-fifth of an ounce of a young onion required 722 chews before it disappeared through involuntary swallowing, and Dr. Kellogg mentions a patient who cheerfully spent never less than an hour and a half in masticating his one small daily meal. To insist that busy men, those whose shoulders and minds bear the burdens and cares of government, commerce or literature; whose eager intellects are conquering the earth, the sea and the air — to insist that these should be subjected to a wearisome mastication of inanimate food, is a delusion and a snare, an anachronism in our twentieth-century civilization, and a frittering away of priceless time.

A short while ago there consulted me a cadaverous-looking dyspeptic, who informed me that, up to his retirement from active business five years ago, he had never experienced a digestive discomfort. During his laborious years he ate his breakfast hurriedly, so as to get to the store betimes. His lunch was snatched at a nearby restaurant, while his evening meal was frequently rushed by some important engagement. The finer details of mastication never entered his head, nor did he realize that he was "digging his grave with his teeth," until so informed by an overzealous friend acquired in his new life of leisure. The small seed, once sown, took root in his idle mind, and, with little else to do, he devoted himself assiduo [illegible] to flet[illegible]ing his food and safeguarding his [illegible] The [illegible] of this a morbid introspect[illegible] tr[illegible] a r[illegible] alert business man [illegible], [illegible]alic of pains and obsessions, and with every waking thought short-circuited on his stomach. That this is not an uncommon case any observant physician will testify.

The students of digestion and nutrition, guided by the beacon lights furnished by Pawlow and Cannon, are each year according more and more potency to the psychic factors involved in every function of those organs, and benighted indeed is the intellect that can comprehend only the mechanic and chemic aspects of these all-important questions. When an appetizing meal is placed attractively before a hungry diner, both the eyes and the olfactories set in motion the preliminaries to the digestion of that meal. As each mouthful is received by the waiting gustatory tract, it is chewed and insalivated just enough to promote easy deglutition, and to allow its savory taste and aroma to be thoroughly appreciated. In the meanwhile numerous messages are being sent to the stomach, pancreas and other organs concerned, informing them in language perfectly intelligible how much and what kind of aliment is being sent them to digest. Should the messages be of cheerful import, these organs set to their tasks with alacrity, performing them with such ease and dispatch, that the fortunate owner need not know that he even owns a stomach.

On the other hand, should the same meal be taken with severe gastronomic contemplation, and with arduous and lengthy mastication, the message may be "flashed" to the same waiting organs: "Your master has lost confidence in you, the mouth and teeth will take over the most of your former duties, and hereafter you will be under constant mental surveillance." It is easily understood that under such conditions digestion is performed in a halting, complaining and unsatisfactory manner, and well may we say that "the last state of that man is worse than the first."

A certain amount of necessary chewing is advisable, as evidenced by the conformation of the human teeth. If the chemical functions of the stomach are deficient, or if the outlet is greatly constricted, fine mastication and thorough insalivation are highly beneficial. Fletcherism is also allowable in those lackadaisical creatures whose tastes are gently epicurean, and who possess the desires of a Lucullus, minus the initiative. Let these harmless souls chew to their heart's content, for they need some fad, and this one can harm no one unless it be themselves.

To the great majority of every-day Americans, a simple injunction as to good teeth and ample mastication is entirely sufficient. But to those ardent beings who move impetuously through the drama of life, whose every act is intense and every movement like a flash—to these fletcherism is a thorn in the flesh, causing them to worry and chafe like a spirited horse held back by a cruel bit.

Each division of the alimentary tract has its rightful duties in the life-scheme of nutrition, and the magnification of any one is liable to prove an opening wedge for various digestive ills, that, like jealousy, furnish the food they feed and grow on.

As we cannot by thought add one cubit to our stature, so let me close with the paraphrase, "No man can by taking thought add energy to his stomach."

Pure Milk a Community Problem.—The milk business is not the farmer's but the community's business, and unless the members of a community work together for good milk they will never have it.—Horatio N. Parker, M.D., in *Child Welfare Bull.*

SPASM OF THE LUMBAR MUSCLES

A DIAGNOSTIC SIGN IN INFLAMMATION OF THE KIDNEY

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The study of visceral reflexes offers a fruitful field in diagnosis. It is strange that the sensory, motor and trophic changes dependent on reflexes caused by visceral diseases have not been worked out more carefully. The motor changes due to appendicitis, diseases of the gall-bladder, and ulcer of the stomach and duodenum have long been known; but similar changes due to disease in other viscera have been suggested very slowly. I called attention to a resistance in the muscles of the right half of the abdomen, particularly the upper portion, when the ileum is the seat of a tuberculous involvement.[1] I have also pointed out the spasm of the lumbar muscles when the kidney is the seat of a tuberculous involvement.[2] It must be remembered, however, that these reflexes are not peculiar to tuberculosis, but are present whenever any inflammatory condition is present in these viscera. I have also pointed out that the same motor visceral reflex is to be found in the presence of inflammations affecting the lungs and pleura, and that it can be detected in the muscles of the neck and chest. Much of our stimulation to the study of visceral reflexes, as well as our knowledge of them, comes from Ross, Head, Egger, Mackenzie and Bálint in Europe, while I have urged their importance in America.

The principle of these reflexes is simple, although it does not seem to be generally understood. The reflex is segmental in character; that is, while individual fibers of the nerve may take their origin from more than one segment of the cord, the fibers from only a single segment may be involved without disturbing the remaining fibers. Therefore, the entire nerve is not necessarily involved in the reflex, but only certain fibers of it. From this we can plainly see that one muscle of a group, or a portion of a muscle may show spasm, while the rest of the group, or the other portion of the muscle does not, although the entire group or entire muscle is supplied by filaments from the same nerve. Only those fibers of the nerve are involved which take their origin from the cells affected by the stimulus as it comes from the cord through the fibers of the sympathetic which supply the inflamed portion of the viscus. Therefore we should always expect reflex motor, sensory, trophic and even secretory phenomena to be expressed through the nerve fibers coming from a segment of the spinal cord when the particular cells of that segment which give them their origin are irritated. Thus, for example, when the viscera (or any part of a viscus), which are supplied by sympathetic nerve fibers from the third cervical segment of the spinal cord are inflamed, some of the cells which give origin to motor, sensory and trophic fibers in the same segment will be irritated by the impulse carried to the cord through the sympathetic fibers, and produce motor, sensory and trophic changes in the parts which these fibers supply. The same is true of any other segment of the cord which gives origin to nerve fibers supplying the viscera. It only remains for us to work out the areas carefully. Future investigations will undoubtedly show definite areas for motor, sensory and trophic disturbances which we shall be able to assign to each organ or part of organ.

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[1] Pottenger, F. M.: Interstate Med. Jour., May, 1911.

[2] Pottenger, F. M.: Muskelspasmus und Degeneration, ihre Bedeutung für die Diagnose intrathorazischer Entzündung und als Kausalfaktor bei der Produktion von Veränderungen des knochernen Thorax und leichte Tastpalpation, Beitr. z. Tuberk. (Brauer's), xxii, No. 1, 1912, 1; Muscle Spasm and Degeneration and Light Touch Palpation, Mosby & Co., St. Louis, September, 1912.

My method of study has been entirely clinical. By palpation I have endeavored to find the motor and trophic changes. In the presence of acute inflammation the reflex shows as a spasm of the muscles while, if the inflammation becomes chronic, degeneration occurs, the soft parts atrophy and changes occur even in the bones, cartilages and joints, which can safely be attributed to trophic disturbances.

Head, Egger and others have proved the sensory changes in the skin. Bálint from the Koranyi Clinic in Budapest has studied the muscle changes by means of their electric reaction. In 1903 he published the fact that in the presence of pulmonary tuberculosis there was a difference in the electrical reaction to both the galvanic and the faradic current in the chest, arm and neck muscles on the side of the involvement. In a recent paper Bálint and Egan[2] published further studies with reference to the electrical reaction of the muscles in case of inflammation of the kidney, gall-bladder and ulcer of the stomach and duodenum and promises for a future paper which shall be a complete study along this line. This work will undoubtedly add to our knowledge of diagnosis of visceral inflammations.

The kidney reflex (muscle spasm) which I wish to describe is not very difficult to elicit. It is found by placing the patient on a comfortable stool or chair so that his feet are flat on the floor. He is then instructed to sit erect, but relaxed, so that the lumbar muscles are not put on a stretch. These muscles are now examined by light palpation. Any difference in tension should be observed. If one kidney is the seat of an inflammatory process, the muscles on that side will be firmer than normal. If both kidneys are inflamed the lumbar muscles on both sides will be firmer than normal to the touch. It is often plainly visible that the muscles on the affected side are larger and stand out more prominently than the corresponding muscles on the other side. The most important thing to remember in looking for the spasm here, the same as in examining the muscles of the abdomen, chest or neck, is to have the muscles relaxed. The muscles which are being examined, as well as those with which they are being compared, must be relieved of all tension, otherwise errors will creep in.

The importance of these reflexes is self-evident. At a glance one has a suggestion that a kidney may be inflamed, or the seat of a stone or a tuberculous process, or some other inflammation. In tuberculosis of the kidney, when operation is considered, this is of special value. It will prevent the disaster which sometimes occurs when after one kidney is removed, it is found that the other one is also involved. The importance of this is evident from the fact that a tuberculous kidney does not always cast off bacilli. Catheterization of the ureters and a failure to find evidence of tuberculosis in the catheterized urine does not prove that the kidney is not tuberculous. The presence or absence of spasm of the lumbar muscles, however, or a normal or altered electrical reaction, as determined by Bálint will unquestionably be of value in these cases. With the experience that I have had with tuberculosis of the kidney, since announcing this reflex, I am sure that no kidney should be removed for tuberculosis, except as a life-saving measure, if the lumbar muscles on the other side are the seat of spasm.

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[2] Bálint, Rudolf, and Egan, Ernst: Ueber Veränderungen der elektrischen Reizbarkeit der Muskeln bei Erkrankung verschiedener Organe, Berl. klin. Wchnschr., Dec. 2, 1912.

A CASE OF SPASTIC PARAPLEGIA, WITH DORSAL ROOT SECTION FOR PAIN AND SPASTICITY

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Patient.—J. C., aged 37, single, admitted Oct. 6, 1910, to the Buffalo General Hospital. Family history, negative. Usual diseases of childhood. Railroad accident at the age of 7 leaving right ankle ankylosed. Typhoid at 17; recovery complete. At 19, acute rheumatism of joints of legs for six months; another attack at the age of 21, which lasted nine months; recovery. Two attacks of gonorrhea at ages of 23 and 25, leaving moderate stricture; chancre at age of 35; patient had been treated for that and for the stricture.

Present Illness.—For some time past, patient had a sensation about the body like a girdle pain and some numbness of the legs; had some trouble in walking. Sept. 25, 1910, he felt a sudden shock like an electric current go through the body; abdominal muscles grew tense; patient had to be taken home and later entered the General Hospital. Complaint: girdle pain, tense abdominal muscles and trouble in walking.

Examination.—Large, well-nourished man. Heart slightly enlarged with some arteriosclerosis present. Urine normal. Wassermann positive. Slow dragging walk. Sensation good; knee-jerks exaggerated, doubtful clonus, no Babinski. Probable diagnosis, hysteria; later diagnosis changed to spastic paraplegia, due to syphilis of the cord.

Treatment and Course.—The patient remained at the hospital for several months, receiving general treatment and three doses of salvarsan. The hysteric symptoms continued, and gradually positive signs of spinal cord involvement appeared and increased. In May, 1911, he was admitted to the Erie County Hospital. At this time spastic paraplegia was marked, with flexion and adduction of the legs. Patient complained of severe pain in the abdomen and legs; he was unable to stand or walk, spasticity was extreme; reflexes were increased except at right ankle, which was stiff from ankylosis. There was some voluntary motion in the left leg, and partial loss of control of the sphincters. The patient remained in bed, complaining bitterly of pain, drawing sensations and constipation. The spasticity increased until he could be lifted from the bed like a board, all the muscles, especially the abdominal and erector spinae, in a state of extreme contraction. On account of the increasing pain and spasticity, unrelieved by treatment, it was decided by Drs. Putnam and Kauffman that section of the posterior roots was indicated. The site determined on was the lower dorsal region, as the symptoms were centered in that area. If this operation should afford partial relief, a second operation was anticipated in the lumbar region.

Operation.—Oct. 13, 1911, by Dr. Le Breton; ether anesthesia. Incision from the eighth dorsal to the first lumbar vertebrae. Spinous process of the twelfth dorsal removed, trephine applied to its base, and button of bone excised; rongeur used until the dura was bared from above the ninth to the first lumbar vertebra; dura opened; flow of clear fluid; posterior roots cut, ninth, tenth, eleventh, twelfth and first lumbar, each side, resecting when possible portions of the roots. Catgut to dura, muscles and skin; no drainage.

Postoperative History.—The following day the spasticity had disappeared everywhere; reflexes absent; loss of bladder control complete; loss of control of the left leg; complaint of great drawing pain inside of the abdomen.

One week later, partial return of bladder and leg control. Area of anesthesia across the abdomen from navel to upper thighs, about corresponding to the lower intercostals, iliohypogastric and ilio-inguinal nerves, also a narrow area across the lower back. The edges of the wound separated slightly with some serous oozing.

Two weeks later, some purulent discharge from under the skin reaching to the muscles beneath.

December 16: Wound healed. Loss of weight and strength; complaint of severe pain constant; patient states that the pain in the abdomen is worse than ever; slight return of spasticity in all muscle groups and of the reflexes.

December 23: Patient very costive; pulse 116; loss of strength; patient states that he wants to die; very hysterical; spasticity returned all over and very severe; anesthesia across abdomen as before; bedsore on buttocks.

Jan. 4, 1912: Condition bad.

January 26: Death from inanition and exhaustion. A necropsy could not be obtained.

COMMENT

The indication for this operation is the necessity for relieving pain or spasticity or both. This case seemed ideal because of patient's age and general strength and the fact that both the pain and spasticity were so marked and kept increasing in intensity. On account of the hysterical element it was sometimes hard to believe what the patient had to say about the severity of the pain, but the spasticity had to be felt to be appreciated. The reason for the report of the case is the fact that in the area most complained of, that is the abdomen, there was no relief from pain—the patient maintaining to his death that it was worse than before; and the fact that within ten weeks' time the spasticity had completely returned, the recti abdominis looking like bowstrings.

In the recent literature on posterior root section, an article by W. A. Jones[1] gives the best idea of the consequences of this operation, as he summarizes in a useful way the experiences of others. The majority of these report partial or complete success, but some had been disappointed by the return of the pain or spasticity after the operation. The explanation of the return of pain is that the lesion is central to the root section or that the pathway for pain sensations may lie elsewhere than in the posterior roots. The explanation of the return, partial or complete, of the spasticity is not well understood. Nor has it been understood why in one case there occurs anesthesia, in another hyperesthesia, and in yet another, no changes in sensation.

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POLIOMYELITIS IN GUINEA-PIGS*

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P. H. Roemer[2] has noticed that guinea-pigs in his laboratory frequently died of a paralysis which was very similar to that of epidemic poliomyelitis. On studying the cause of this paralysis he found a non-bacterial, filterable virus which could be transmitted from guinea-pig to guinea-pig, and which caused, after an incubation period of nine to twelve days, a flaccid paralysis, usually of the hind legs, with involvement of the bladder. Microscopically this condition also resembled the pathologic picture of poliomyelitis in man. No other investigators report any successful results in this species of animals.

Oct. 11, 1912, Monkey 20 (*Macacus rhesus*) was injected with an emulsion of the cord of a monkey that suffered from poliomyelitis of a very high virulence, obtained through the courtesy of Dr. Clark of the Rockefeller Institute. This injected monkey was placed in a cage with a wire bottom. October 14 the animal, which was sitting in a corner of the cage, was reported ill. The cage containing the monkey was placed by one of the attendants on a cage in which there were guinea-pigs. October 15, I found the monkey suffering from a paralysis of the muscles of the neck and apparently unable to raise its head which was hanging down. There was also a marked paresis of all four extremities and a discharge was dripping from its nose. October 16, two guinea-pigs were reported paralyzed in their hind legs and died the same night. A necropsy was done the following day on the monkey, which later on examination showed marked lesions in the cord, characteristic of poliomyelitis.

One of the guinea-pigs, dead when I saw it, was in the position with outstretched hind limbs in which it was described to have been while alive. The other was, unfortunately, through mistake, brought down to the crematory by one of the attendants before I could get hold of it. A necropsy was done in Guinea-Pig 1. The cord was edematous to such an extent that it was semifluid, and only a small part with the neighboring tissue was put into formaldehyd solution for hardening. The rest was put into a sterile salt solution for further injections. A piece of the nasal mucosa was also preserved in another tube. The thoracic and abdominal organs showed nothing abnormal. The histologic findings were as follows: There was a perivascular infiltration of mononuclear round cells in the pia of the anterior longitudinal fissure, and a pericellular infiltration of these cells in the anterior horns of the gray matter presenting a focal distribution and a marked neurophagocytosis. The degeneration of the ganglion cells was so far advanced that they were hardly discernible. There were also numerous hemorrhages in the gray matter of the cord. On no section was there any microorganism found.

October 25 Guinea-Pig 3 was inoculated with the emulsion of the cord of Guinea-Pig 1, by rubbing it into the mucosa of both nares. I avoided injection in order to make sure that any lesion that might result should not be attributed to a possible traumatism of the brain or spinal cord, and besides I wanted to imitate as far as possible the natural route of infection. October 31 the animal was reported as dying during a convulsive seizure. A necropsy was done the same day and the macroscopic findings were as follows: There was edema of the cord and brain, with a congestion of the vessels and no pus anywhere. The thoracic and abdominal viscera were normal. Histologically there was no perivascular infiltration of round cells, but there were marked hemorrhages in the gray matter (anterior horns of the cord), slight neurophagocytosis and a very marked degeneration of the ganglion cells of the anterior horns. There was also some infiltration of round cells in the pia around the olfactory bulbs, and there were hemorrhages in the gray substance of the olfactory bulbs and two foci of infiltration of glia and dark-staining round cells.

October 8, a smear of the nasal mucosa of Guinea-Pig 1 was rubbed on the mucosa of both nares of Guinea-Pig 4. This animal remained perfectly well for six days and was found dead October 14. The macroscopic changes of the cord and brain in this guinea-pig were very much the same as in Guinea-Pig 3. Histologically we found some perivascular infiltration of round, dark-staining cells in the white substance at some levels of the cord, and a very marked diffuse round-cell infiltration in the gray substance, especially in the anterior horns of the lumbar segments of the cord, with a complete degeneration of all their ganglion cells and minute hemorrhages in that region. The pia of the anterior longitudinal sinus was slightly infiltrated with round cells. There was also an infiltration of round cells in the pia lining the olfactory bulbs. No bacteria were seen on any of the sections.

As a control, the nasal mucosa of Guinea-Pig 6 were swabbed on December 19 with the filtered virus of the cord of a monkey that died of poliomyelitis. The animal remained well for twenty-four hours. December 21, the guinea-pig was decidedly ill, moved about with some difficulty and had a distinct paresis in the left hind limb. The animal was at once narcotized and necropsied. The cord and brain were quite edematous and the vessels were congested. Microscopically the cord presented at all levels the characteristic perivascular and pericellular infiltration of leukocytes but this condition was especially marked in the lumbar swelling on one side in the anterior horns of the gray matter, probably corresponding to the affected limb. Here the infiltration was more diffuse in the anterior horn and the ganglion cells were degenerated. The hemorrhages were quite marked at all levels in the gray matter in the cord. The brain presented no characteristic lesions. The abdominal and thoracic viscera were normal. Bacteria were not seen on any of the sections. An emulsion of the cord and brain of this guinea-pig was injected into a monkey. The animal became quite ill two days after the injection and remained so for three days but ultimately recovered and is perfectly well now.

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[1] Jones, W. A.: Resection of the Posterior Roots of the Spinal Cord, The Journal A. M. A., Oct. 7, 1911, p. 1175.

* From the Department of Bacteriology, University and Bellevue Hospital Medical College, Prof. W. H. Park, Director.

[2] Ergebn. d. inn. Med. u. Kinderh., 1912, p. 1.

While I do not care to draw any definite conclusions from these few experiments, I believe I am justified in assuming, as did Römer, that the first two guinea-pigs and Guinea-Pig 6 presented clinical symptoms and pathologic lesions of poliomyelitis and that the probable manner in which Guinea-Pig 1 was infected was through virus of the infected monkey mixed with the dust of the cage in which the guinea-pigs were confined, the dust obviously infecting the guinea-pigs through the nasal mucosa.

It is also pertinent to note that the guinea-pigs used had not been experimented with before and that their antecedents had been traced to the farm from which they came.

I desire to thank Drs. Reiley and Fraser for their kind assistance.

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THE GROWTH, THE DEATH AND THE REGENERATION OF BONE

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Radical differences of opinion have always characterized the teaching of the theory of the growth and regeneration of bone, but one factor in the process appears to have been unanimously conceded a place of great importance. The embryologists, the anatomists, the physiologists, the surgeons and the pathologists have agreed that the periosteum is not only a source of nutrition for the bone but that it also possesses definite osteogenic properties: that from the periosteum the osteoblasts have their origin, in part at least, for the formation of the bones of the fetus, and that the process for the regeneration of bone to replace portions destroyed by disease originates and develops largely in and from the periosteum.

In a recent article[1] one of the foremost American surgical anatomists of to-day says:

> In the new-born, and in young individuals, the periosteum is composed of three layers, the outer layer consisting mainly of rather coarse white fibrous tissue, a middle fibro-elastic layer, and an inner osteogenic layer. . . . In the adult, the osteogenic layer has practically disappeared, leaving here and there a few of its cells, a factor that must be reckoned with in every effort at osteal transplantation or grafting.

Another well-informed and progressive surgeon in an address recently published[2] says:

> Osteogenesis resides in the lower layers of the periosteum, the marrow and the soft structures within the haversian canals and lacunae.

Now comes Sir William Macewen of Glasgow with a little book[3] in which are detailed many observations from elaborately planned and executed experiments which, if substantiated and confirmed, completely upset our former views and necessitate a revision and correction of all the standard text-books on anatomy, physiology, surgery and pathology.

Macewen not only denies to the periosteum an osteogenic function but assigns to it a function of a diametrically opposite character: that chiefly of a "limiting membrane" for the osteoblasts to prevent their overgrowth into the soft tissues.

With reference to these functions of the periosteum he concludes as follows:

> It may be deduced from the foregoing observations and experiments that diaphyseal bone is reproduced by the proliferation of osteoblasts derived from preexisting osseous tissue, and that its regeneration takes place independently of the periosteum. *The periosteum is not essential to bone production* [italics mine]. Osseous tissue can pass through all the phases of its life, from its embryonic to its mature form, without the influence of or contact with this tissue.
>
> The periosteum is of great use in limiting within specific boundaries the distribution of the osteoblasts, and preventing them during their evolutionary period from being scattered into the soft tissues, where their presence would be prejudicial to the function of these parts. In the loose areolar tissue existing between the periosteum and the bone the osteoblasts find nutriment for their growth and space to generate, free from undue pressure. While not underestimating the periosteum as a limiting and protecting membrane, of great use in physiologic and pathologic conditions, there are no data to indicate that it can, of itself, secrete or reproduce bone. *It has no osteogenic function* [italics mine].

The acceptance and practical application of this truth, if truth it be, must materially modify the surgery of bones. A new point of view is presented from which, for example, ununited fractures and so-called provisional callus must be considered. The periosteum acting as a barrier to bone growth would of necessity be a factor in causing non-union if it intervened between fragments; and when extensively lacerated or destroyed, or when its function as a limiting envelope is impaired by a failure to immobilize the fragments, the formation of excessive callus through overflow of the osteoblasts into the surrounding soft parts would be inevitable.

All surgical teaching and practice based on the theory that reconstruction of bone depends on periosteum would have to be revised and rewritten.

The transplantation of bone *en masse*, without periosteum, already adopted and successfully practiced in human subjects, would be justified, and confirmed in its empiric position. Bone proliferation and cellular growth circumferentially from grafts *en masse*, or from bone chips and shavings likewise find logical substantiation which confirms the observation of actual results in men and animals.

The theory that such a graft "is *per se* not *osteogenic*, but *osteoconductive*,"[1] must also be held subject to revision.

Macewen's comment regarding this phase of the subject is as follows:

> Small diaphyseal grafts, when placed in a gap in the continuity *of bone*, show *active proliferation from the whole cir-*

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1. Murphy, John B.: Contributions to the Surgery of Bones, Joints and Tendons, THE JOURNAL A. M. A., April 6, 1912, p. 985.

2. Roberts, John B.: Recent Advances in Plastic Surgery of the Bones, THE JOURNAL A. M. A., Nov. 16, 1912, p. 1759.

3. Macewen, Willia [illegible] of Bone, [illegible] James Maclehose & Sons, 19

cumference, each piece being an ossifying center from which osseous tissue is thrown out sufficient to fill the gap between the various fragments and to unite them together along with the two ends of the divided shaft. Under suitable surroundings the vegetative capacity of the osteoblasts is at least as great as any of the tissues in the body, and bone proliferation takes place from its whole surface circumferentially, while epithelium, for instance, proliferates only on the flat.

As an example of the eccentric growth of bone through rents in its periosteal envelope in an untreated fracture, I present a specimen (Fig. 1) from a young elk I killed in Colorado in 1892. The unconfined osteoblasts distributed through the periosteal rent by the constant use of the animal's leg have produced a large amount of exuberant callus in addition to that required to unite the fragments.

Another striking example is the formation of a bony wall for a false aneurysm when the ends of the fractured bone have at once lacerated the limiting periosteum and a large artery. The osteoblasts swept from the bone through the rent and carried by the blood-stream to the side wall of the aneurysm form plates or placques of bone on it, though they be entirely disassociated from both the bone and the periosteum.

The well-known importance of the epiphysis and of the plates of cartilage lying between the epiphysis and the diaphysis in their relation to the growth of the diaphysis is experimentally confirmed, as is also the protection afforded by this cartilage against the diffusion of infection.

"Once the epiphyseal plates of cartilage are well formed and complete, they become of service against the advance of pathologic products—as they then form a barrier to disease emanating from either the epiphysis or the diaphysis. In this way a pyogenic process emanating from the medulla of the diaphysis is prevented from spreading into the epiphysis, and consequently the joint is saved from invasion; and on the other hand, a tubercular process originating in the epiphysis is barred from encroaching on the diaphysis."

This limiting function of the cartilage (which Macewen prefers to call the diaphyseal cartilage because of its more necessary relation to the diaphysis) is exceptionally well illustrated (Fig. 3) in one of my cases in which after the sequestrum and pus were removed the Mosetig-Moorhof bone wax is shown by the skiagram to lie in a large mass directly against the cartilage, while no infection of the cartilage, the epiphysis or of the joint occurred.

In an analysis of Sir William Macewen's conclusions every surgeon of experience will review his own work and results and attempt to determine for himself how far he believes them to refute or confirm Macewen's findings.

Among the important questions to solve is an occasional apparently unaccountable extensive destruction of the diaphysis without any effort at reconstruction, while in another patient equally extensive death of the bone is attended by an immediate attempt at regeneration of the diaphysis which speedily goes on to the formation of a perfect bone after the dead bone and pus are eliminated.

As examples of these quite different phases of destructive osteomyelitis I beg leave to refer to two cases; I operated on the first patient and reported the case many years ago;[4] the second case I saw within the past year and still have it under observation.

The sequestrum from each case is presented. From the second case the skiagrams showing the primary gap and the steps of the reparative process are also presented.

Case 1.—During the winter of 1884 a girl aged 4 sustained a fracture of the lower end of the fibula about an inch above the epiphysis. The nature of the injury was not recognized by the family. Cold wet cloths were applied and she was allowed to hobble about the house for a week when the leg was immobilized on a splint. A fluctuating swelling was found over the seat of fracture which was opened and more than an ounce of pus evacuated. No union of the fracture occurred, and the opening drained freely for three months when a red spot, presenting deep fluctuation, was found over the upper end of the shaft of the fibula. This infected area was incised, and when the bone was examined through the incision its denuded surface could be felt. It was apparent that the shaft of the fibula was dead almost from one epiphyseal extremity to the other.

The end of the bone was caught with forceps through the lower incision and with a slight twisting motion the shaft of the fibula was easily withdrawn from its periosteal sheath.

I herewith present this sequestrum showing the erosion produced by the progressive osteomyelitis. The upper end shows more erosion than the lower (Fig. 2).

A rubber drainage-tube of small diameter was pulled through the periosteal sleeve by passing a probe from one opening to the other with a bit of string attached. Through this tube, the sides of which were perforated, the suppurating sinus was kept free from pus.

After a little time had elapsed it became apparent that the tube was being encroached on by the centripetal bony growth from the involucrum and the tube was removed.

Irrigations were continued as long as the sinus remained patulous. It closed, however, with great rapidity and the ultimate result was a complete restoration of the shaft of the fibula, though no union occurred at the site of the original fracture near the lower end of the bone.

Case 2.—This was a fulminating osteomyelitis of the left tibia in a boy aged 6. In August, 1911, the abscess was incised and drained by another surgeon. In November of the same year the patient came under my care and was sent to the Children's Hospital of Denver.

It was apparent that there was extensive death of the bone involving the shaft from near the upper epiphysis to the junction of the middle and lower thirds.

On Nov. 21, 1911, he was operated on and the dead bone removed. The necrosis extended to the upper diaphyseal cartilage as is plainly shown by the shadow of the iodoform wax used to fill the space. *The periosteum was not destroyed* and was pushed aside to receive the bone wax. The periosteum and the muscles were then stitched over the wax with fine catgut and the skin closed over all with small openings to provide for drainage.

The general health of the boy improved at once though the sinus discharged more or less pus and portions of the wax were pushed out by the growth of the granulations going on beneath it.

The skiagrams made from time to time and herewith shown illustrate the gradual disappearance of the wax and the smoothing of the ends of the fragments.

After many months had elapsed it was evident that no union of these fragments could occur without intervention.

On July 1, 1912, a skiagram (Fig. 6) was made showing a small portion of the bone wax retained in the middle of the head of the tibia, the shadow of the little square below it indicating a bit of metal placed in the mouth of a small sinus on the surface. Later the same day this sinus was spooned out thoroughly, the remainder of the wax removed and the side-walls of the cavity containing it thoroughly scraped and sterilized by an application of pure phenol (carbolic acid). Prompt healing of the sinus resulted.

Sept. 28, 1912, all infection in the leg having disappeared, an operation for grafting a segment from the opposite tibia into the gap was undertaken. The space was opened and the periosteum denuded from both the upper and lower fragments.

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[4] Wetherill, Horace G.: A Case of Bone Reconstruction. Jour. Trenton Nat. Hist. Soc., 1886-1887, p. 52.

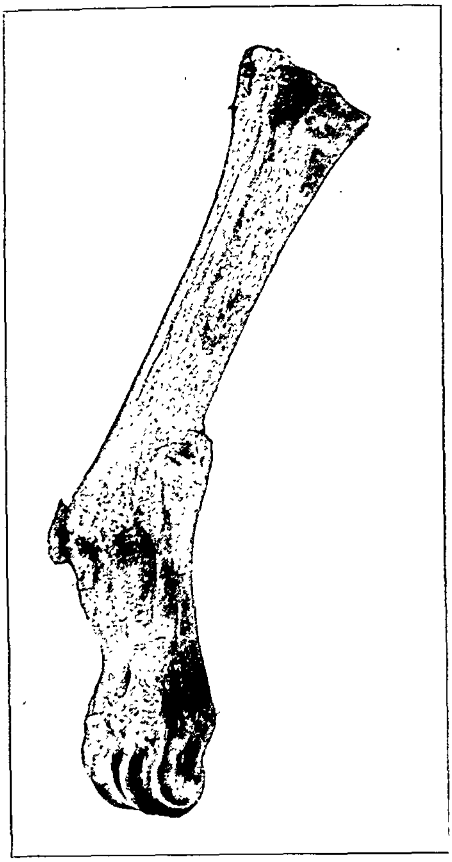

Figure 1.

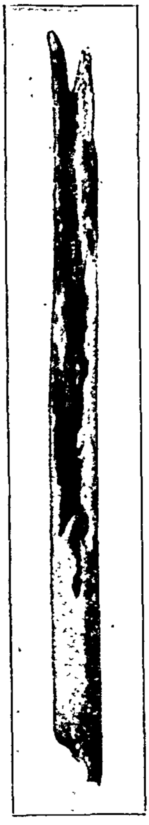

Figure 2.

Fig. 1.—Specimen from young elk showing exuberant callus caused by lacerated periosteum and unrestrained motion between the fragments.

Fig. 2.—Sequestrum from Case 1. Diaphysis of fibula removed from its periosteal envelope. Complete restoration of the diaphysis followed the removal of this sequestrum without union at point of fracture near its lower end.

Fig. 3.—Case 2, Nov. 24, 1911. Skiagram through plaster dressing, showing Mosetig-Moorhof filling, in space left after the removal of the sequestrum. Note the broad encroachment of the filling on the diaphyseal cartilage and how the filling was pushed away from it in the process of repair, as indicated in the subsequent skiagrams. Front and lateral views. I am indebted to Dr. S. B. Childs for this and the following skiagrams.

Fig. 4.—Case 2, Jan. 25, 1912. The same leg two months later. Filling pushed away from diaphyseal cartilage and discharged from the wound or absorbed so that little remains. Note the rough ends of the tibia and the gap between the fragments.

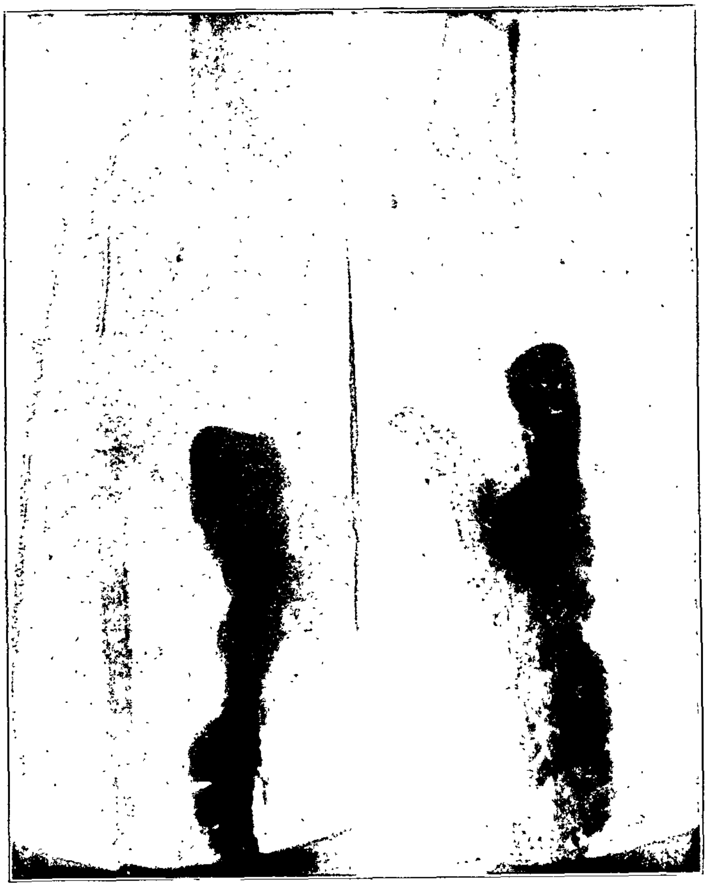

Figure 3.

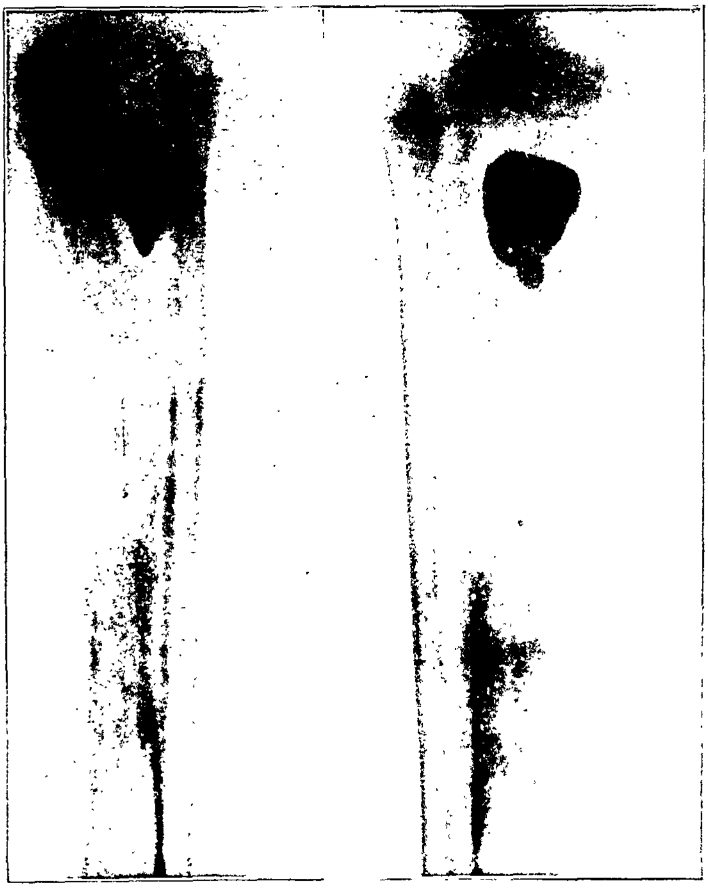

Figure 4.

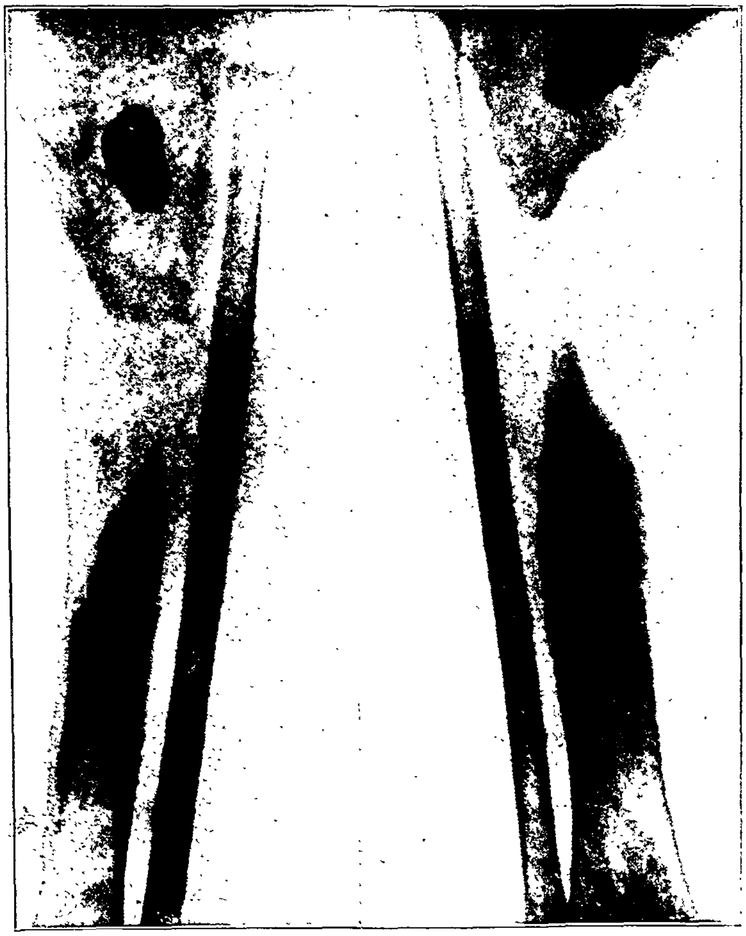

Fig. 5.—Case 2, March 25, 1912. Ends of the fragments becoming smoother and filling reduced in size.

The medullary canal was excavated to the depth of half an inch in the upper fragment and it was my purpose to do the same with the lower fragment: its oblique end, however, appeared so favorable for freshening and splicing the graft on in such a way as to bring broad surfaces together that this plan for making the union was adopted, as shown by the skiagram taken four weeks after the operation (Fig 8).

Figure 9 shows the tibia of the right leg and the site from which the graft had been taken.

The graft was 3⅓ inches long, five-eighths inch broad, and about three-eighths inch thick. *It was taken without periosteum.* The periosteum was regarded as being of more importance in protecting the sound tibia from infection and overgrowth than in the regeneration of the bone of the defective tibia. This slab of bone was driven into the excavation in the head of the tibia and secured by a silver-plated wire brad five-eighths inch long. The lower end was spliced to the freshened oblique surface of the lower fragment to which it was nailed with a similar brad and wired with two loops of phosphor-bronze wire. The muscles were approximated over the graft with catgut and the skin closed with fine silkworm gut over all.

The subsequent course of the case was attended by a slight evening rise of temperature. This was explained by a low-grade infection about the lower end of the graft which made the subsequent removal of the phosphor-bronze wire and the nail necessary. The use of the wire was a mistake. The infection did not, however, impair the vitality of the graft or prevent firm union between the graft and either the upper or lower fragment. Indeed, the union at the lower end seemed to be firmer and stronger at the time the wire was removed, about three weeks after the operation, than that at the upper end, and of the two methods of making the contact I believe that the oblique splice is preferable when the ends of the bones are conical or otherwise adapted to this method.

After eight weeks the tibia was firm, fairly uniform throughout, and *larger in diameter over the graft than the right tibia,* though no defect could be detected by palpation at the site from which the graft had been removed from the right leg.

These two cases and the exhibits bear study in their relationship to the points at issue which are:

1. Has the periosteum, *de novo,* an osteogenic function, or is it in the main a limiting membrane, which prevents overgrowth into the surrounding tissues?

2. Can bone live and grow and proliferate when denuded and disassociated from its periosteum?

3. When transplanted to fill a gap does it become osteogenic or is it merely osteoconductive?

Quoting only those portions which refer to the above items, I cite from a recent exhaustive summary these crystallized statements from an accepted authority, Dr. John B. Murphy.[1] I do this, not in a spirit of criticism, but from a desire to acknowledge gratefully the splendid original work he has done in this field and because his

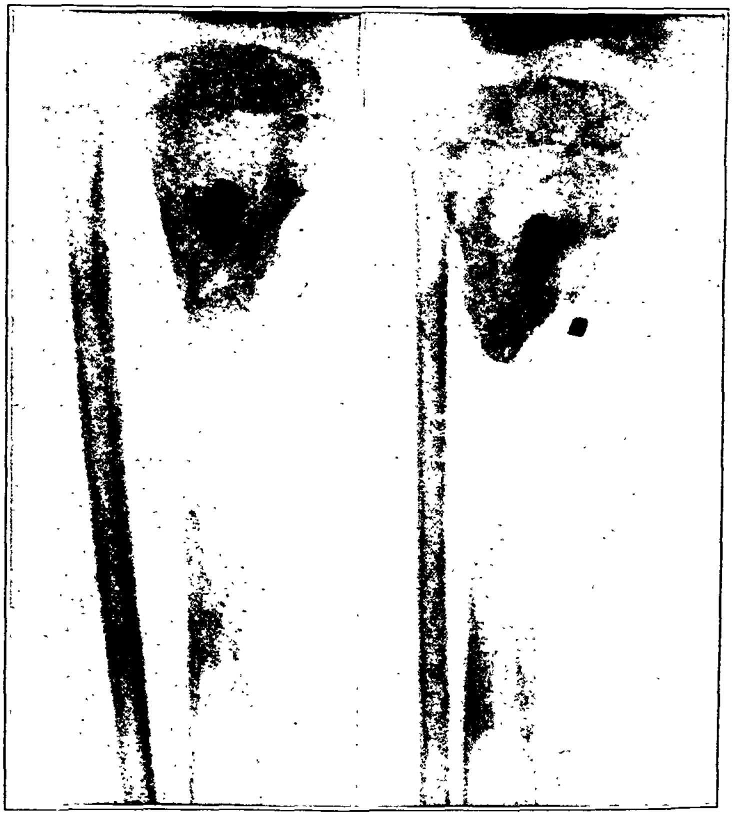

Fig. 6.—Case 2, July 1, 1912. Remaining Mosetig-Moorhof filling small and in center of the head of the tibia. The ends of the fragments smooth and pointed. The black square is the shadow of a small piece of metal. It indicates the opening of a sinus leading down to the filling.

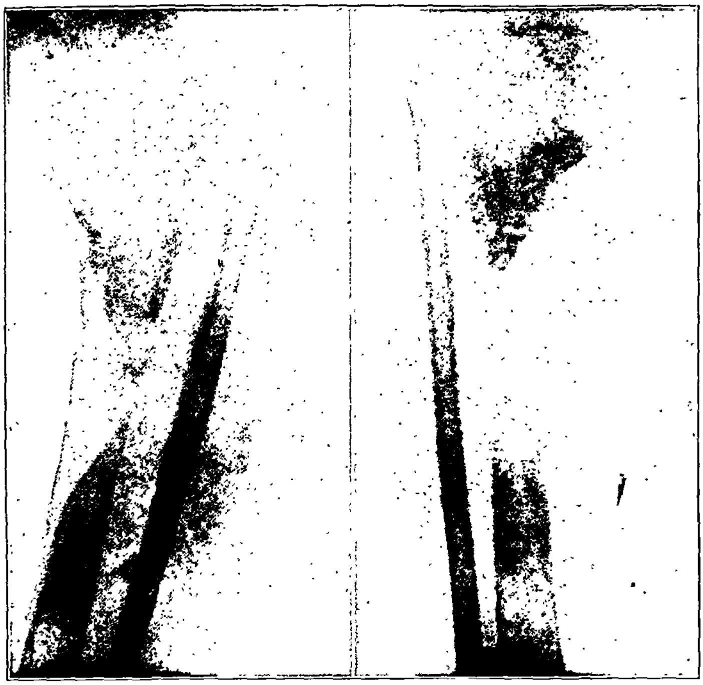

Fig. 7.—Case 2, Sept. 13, 1912. Showing persisting gap in tibia and sharp points of fragments. Lines indicate points at which freshening of the fragments was contemplated.

utterances are regarded as the last word of the progressive workers and thinkers of America, and best exemplify the most advanced American teaching with regard to the subject:

> In order to achieve the best results in the work of bone-grafting and bone transplantation, the following laws must be observed: The periosteum fully detached from bone and transplanted into a fatty or muscle-tissue bed in the same individual, if he be young, may produce a lasting bone deposit. . . . Periosteal strips elevated at one end from the bone and attached at the other, if turned out into the muscle or fat, reproduce regularly bone on their under surface for a greater portion of their entire length. . . . Bone with or without periosteum transplanted in the same individual and contacted with other living osteogenic bone at one or both of the ends of the transplanted fragment always becomes united to the living fragments and acts as a scaffolding for the reproduction of new bone of the same size and shape as the transplanted fragment if asepsis is attained. This new bone increases to such size as is necessary to give the support required by Nature in the extremity in which it has been placed. . . . The transplanted fragment, no matter how large or how small, is always ultimately absorbed. . . . The graft is *per se* not *osteogenic* but *osteoconductive*. . . . The graft increases in size on the surface as bone increases in size histologically, i. e., by deposits beneath its newly formed periosteum. . . . When the graft is covered with periosteum at the point of contact with the living bone, the haversian vessels do not penetrate the fibrous periosteum of the transplant, and regeneration fails. . . . *If the periosteum of the graft is split into shreds, then regeneration through it may take place.* [Italics mine.]

Comparing these statements with the conclusions of Macewen we find an expression of a diametrically opposite opinion regarding the osteogenic function of the periosteum and the osteogenic function of bone-grafts and transplants, perfect agreement regarding the viability of grafts and transplants, and practical agreement regarding the limiting character of the periosteum, as is indicated in the last paragraph quoted.

Macewen's experiments invariably failed to grow bone from the detached periosteum and quite as invariably succeeded in procuring rapid new growth and active proliferation from transplants *en masse* or from shavings, *the more abundant proliferation always coming from the multiple small grafts,* which is not in accordance with the statement that "the graft increases in size on the surface as the bone increases in size histologically, i. e., by deposits beneath its newly formed periosteum," or with the assertion that such a graft "is not *osteogenic* but *osteoconductive*." Furthermore, I have found no authentic record of any instance, experimental or clinical, in animals or in man, in which periosteum detached from its bony contact has produced bone if no bone-cells or osteoblasts were carried from the bone with it.

For twenty-eight years I have thought of Case 1 as a typical illustration of the power of the periosteum to originate and reproduce diaphyseal bone under favorable conditions.

If, however, Macewen's theory is correct, osteoblasts were early thrown out from the diaphyseal bone through and by the aid of the local hyperemia occasioned by the primary infection. These osteoblasts were deposited in

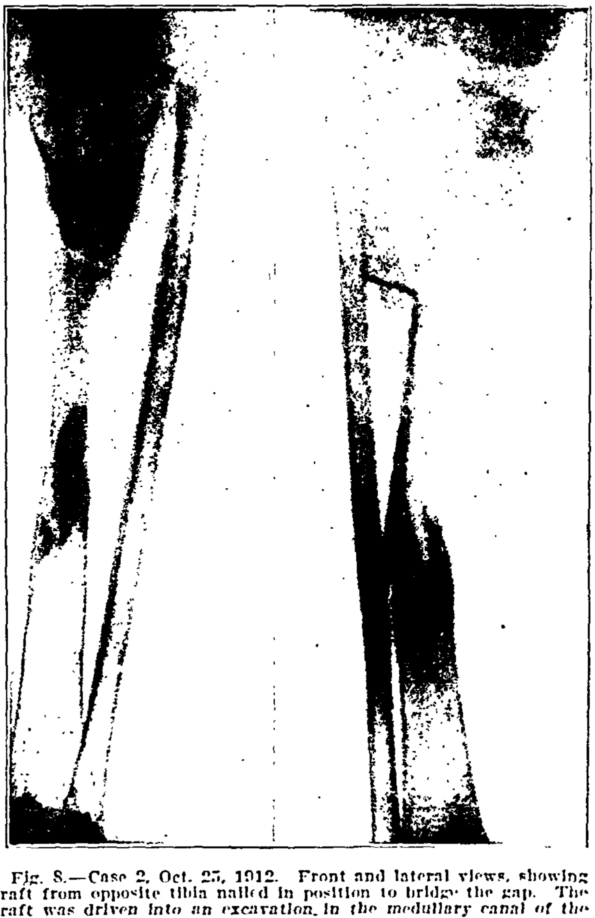

Fig. 8.—Case 2, Oct. 25, 1912. Front and lateral views, showing graft from opposite tibia nailed in position to bridge the gap. The graft was driven into an excavation in the medullary canal of the upper fragment and spliced to the lower fragment, as shown in skiagram to the right. Silver-plated wire brads ⅝ inch long were used. The graft was 3⅛ inches long, ⅝ inch broad and about ⅜ inch thick, and was taken without periosteum.

the subperiosteal areolar space close to the lower layer of the periosteum. From this point they proliferated, multiplied and grew to form the involucrum and ultimately reproduce the diaphysis *in toto,* after the removal of the dead bone; and the periosteum had nothing to do with originating the bone reproduction. Doubtless the circulation necessary for the growth of the osteoblasts and for their proliferation was received in part from the periosteal vessels, but also in part from the end contact of the involucrum with the diaphyseal cartilage; but viewing the history of the case from Macewen's point of view and in the light of his conclusion, there is nothing to convince one that the bone grew from osteoblasts originating in the periosteum and nothing to disprove that the primary hyperemia did not cause their eccentric deposit in the subperiosteal areolar space from the diseased diaphysis before the destruction of the diaphysis was complete.

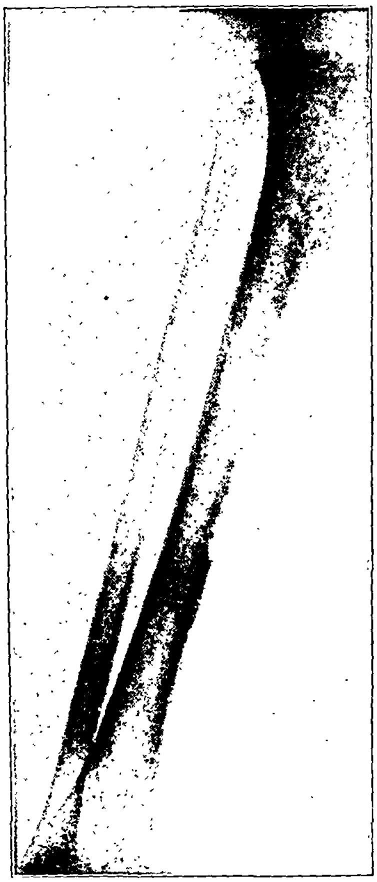

Fig. 9.—Case 2, Oct. 25, 1912. The shaft of the right tibia, showing site from which the graft had been removed. At the time this picture was made, four weeks after operation, no defect in the bone could be felt.

The second case presents an altogether different set of conditions; for in this instance the diaphysis of the bone was destroyed by a fulmination osteomyelitis throughout nearly two-thirds of its length *and its total circumference;* and though the periosteum was *not destroyed, no continuity* in the restoration of the diaphysis occurred or, so far as could be seen at the time of operation, had been attempted by the periosteum. Indeed, it appeared that the pointed ends of the bones had been covered by the collapsed infolding of the periosteum so that the growth of each fragment toward the other had been arrested by the periosteum and union so prevented, all of which points toward a limiting function rather than an osteogenic function for the periosteum.

This observation would appear to cast grave doubt on the osteogenic function of the periosteum if like results were noted in a sufficient number of similar cases.

In this case too the extremely rapid *overgrowth* of the new diaphysis would tend to confirm Macewen's claim for osteogenesis rather than osteoconductivity in the graft; and as the formation of the connective tissue envelope for the new diaphysis would require time to reproduce the new periosteum over and around the bone, overgrowth would be favored, provided, of course, that Macewen's theory of the function of the periosteum as a limiting membrane is correct. Other such observations in sufficient number will *confirm this contention.*

How extensive destruction of the diaphysis may sometimes occur without effort at reconstruction and how reconstruction is promoted under other conditions is explained by Macewen as follows:

> In acute osteomyelitis the infection is at first located in the medulla. In consequence of the great hyperemia induced beyond the area of infection, stimulating rapid tissue change and hyperplasia, the bone cells which are beyond the area of pyogenic invasion are converted into their embryonic condition and proliferate with great rapidity. Osteoblasts accumulate in the haversian canals, and, owing, ***inter alia,*** to the centrifugal blood-pressure, are extruded onto the surface of the shaft, where they infiltrate the meshes of the loose areolar vascular tissue which exists between the periosteum and the bone. The meshes of this layer become charged with osteoblasts, from which fresh layers of bone ultimately form. If the pyogenic invasion be progressive, the shaft may be involved and die, but prior to this necrosis, the osteoblasts which have escaped into the periosteum are preserved from destruction. If in a case of osteomyelitis the periosteum be removed from the bone at a very early stage, osteoblasts will still be poured out onto the surface of the shaft, and form there a layer of fresh bone between the muscles and the old bone. This has been directly observed on several occasions.

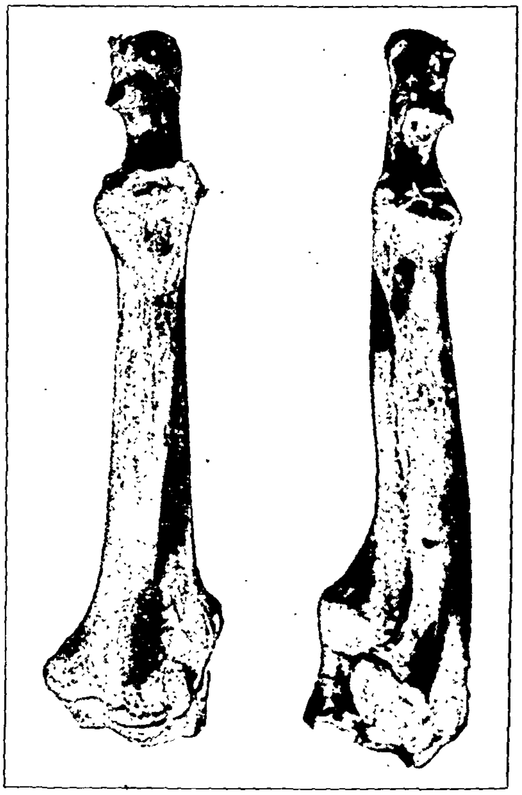

Fig. 10.—The radius transplanted from one dog to another without periosteum, with perfect restoration of the diaphysis and only moderate overgrowth. (After Macewen.)

> This is the usual course in osteomyelitis, but it *does not* always follow in this way. Occasionally necrosis of the whole shaft occurs without reproduction of bone under the periosteum. This may arise from one of *at least two causes.* The first occurs when the pyogenic invasion is more virulent, rapid and extensive, causing blockage of the vessels not only of the medulla, but also of the shaft, producing necrosis without a preliminary period of hyperemia, and consequently before regenerative tissue changes have had time to occur in the

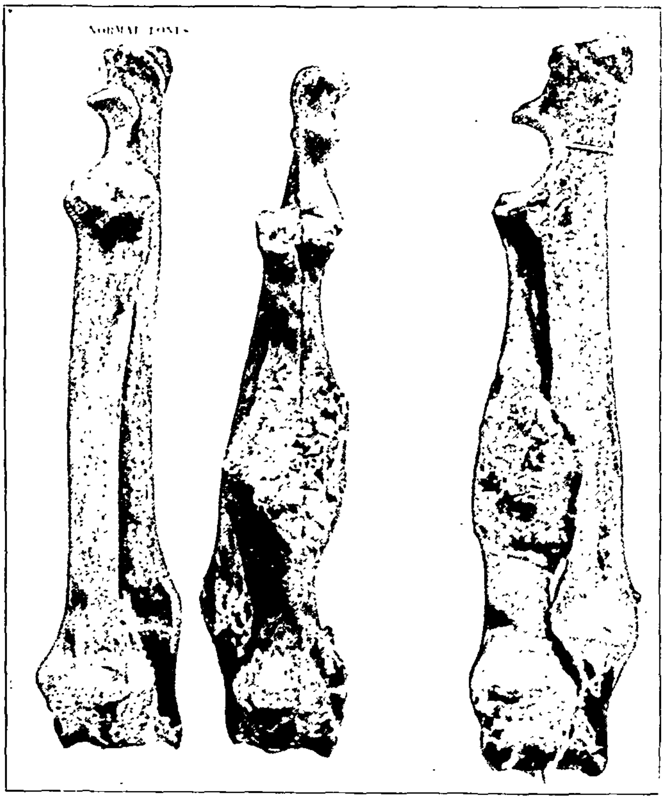

Fig. 11.—Marked overgrowth from transplantation of bone in the form of shavings. The proliferation from many foci is exuberant and sufficiently aggressive to erode the adjoining normal bone. On the extreme left are normal bones given for comparison. The bones on the right are the same as those in the middle viewed from the side (After Macewen.)

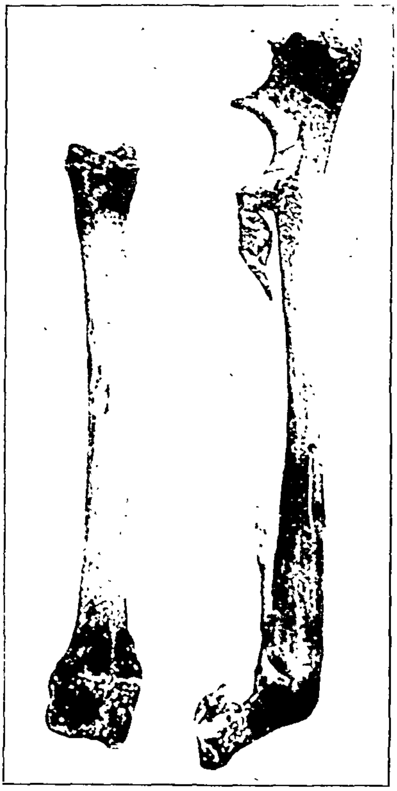

Fig. 12.—Showing total failure of periosteum to produce bone. The radius was subperiosteally removed and the periosteum carefully preserved. The styloid process of the ulna has been bent from pressure and an osseous nodule — about the size of a barley grain — projects from its extremity. (After Macewen.)

shaft. The second, where the main nutrient vessels of the shaft at a very early stage become thrombosed by pyogenic invasion, the blood-supply of a large portion of bone is cut off and necrosis occurs before proliferation within the bone can take place. In some such cases the periosteum participates in the destructive process, but it does not do so in all. Owing to its separate blood-supply, it is possible for the periosteum to live and it sometimes does so apart from the bone. In such a case, however, there is no regeneration of osseous tissue, there having been no osteoblasts regenerated from the bone and thrown from the shaft into the subperiosteal areolar tissue before necrosis set in.

This explanation of the death of the diaphysis *in toto* without any attempt at regeneration on the one hand, and of a hyperemic deposit of osteoblasts in the subperiosteal areolar space to form new bone on the other, fits in perfectly with what we now know regarding the action of emboli and infarcts, and of the effects of local hyperemia elsewhere in other tissues.

We are prepared, therefore, to accept this theory in accounting for both the destructive infection and the subsequent regeneration of bone under circumstances favorable to either.

We have seen elsewhere the deadly embolus instantly and irrevocably destroy every shred of tissue depending on the blocked vessel for life, and we have seen the slower invasion of an equally virulent infection met by a resisting and regenerating wall of leukocytes thrown out about it through the agency of a local hyperemia with early arrest of the infection and regeneration of the tissues. Why may not the same principles apply and operate in the same way in bones?

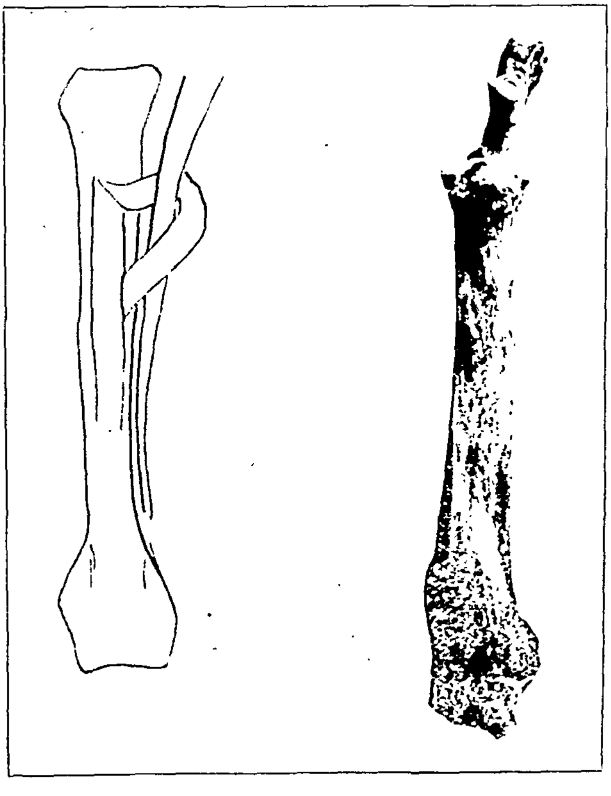

Fig. 13.—Flap of periosteum transplanted from the soft tissues. No bone was formed from such transplanted periosteum in any of Macewen's experiments. A slight overgrowth of bone occurred on the shaft of the radius from which the periosteum had been removed. On the left is a diagram showing flap of periosteum raised from bone except at proximal extremity, encircling muscular fasciculus and stitched to border of intact periosteum at lower end. On the right is shown a node-like increase of bone on shaft of radius at the part from which the periosteum was removed. (After Macewen.)

The growth, the death and the regeneration of bone have long been fearfully misunderstood if the new theories of Sir William Macewen regarding these processes are correct. He presents them clearly and logically and proves them by numerous ingenious experiments on animals and clinical observations on patients. He draws no conclusions he has not verified and his "comment" is so temperate and conservative that it carries conviction with it.

Viewed from Macewen's point of view and in his light I find the two typical cases, quoted in this paper, confirming my other observations under similar conditions, and I am ready to accept the new doctrine and adapt myself to it in its actual application to the day's work.

Should those whose better knowledge of the subject and larger opportunities for practical verification of the doctrine, both experimentally and clinically, confirm the conclusions of Sir William Macewen, much of the literature of medicine will have to be rewritten. The teaching of surgical anatomy and pathology must then be conformed to the new gospel and the practice of bone surgery be revolutionized.

310 Metropolitan Building.

REPORT OF A CASE OF HYDROPHOBIA

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AND
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PHILADELPHIA

Physicians are called so frequently to treat patients who have been bitten by dogs, and so rarely to treat patients with hydrophobia or rabies, that it is not surprising to find some of the profession asserting that the disease does not exist in human beings. It becomes a duty therefore to report well-authenticated cases like the following:

K. N., a girl aged 5, was bitten in the cheek by a dog. The wound healed promptly.

Seventeen days later the child complained of feeling ill, and developed moderate fever, anorexia, constipation and mild delirium. On the next day the delirium increased so that she was restrained with difficulty. The father also stated that the sight of water made her crazy and that there was some frothing at the mouth; but these symptoms were not present on her admission to the Children's Hospital on the third day of the disease.

Examination on admission, June 13, 1910, showed a well-nourished child, very much excited and trembling greatly; the knee-jerks could not be elicited, but ankle-clonus was present; there was no opisthotonos; the pupils were equally dilated, reacting to light; the lungs and heart were clear; palpation of the abdomen gave negative results; a leukocyte count showed 31,000. The child's mental state showed a decided difference from that of ordinary delirium, such as is seen in fever patients, as there was no incoherence in her utterances; but she kept demanding different things ("Let me up," "Take these off," "I want to go home"), with a vehemence that amounted to a true mania, so that rabies (i. e., madness) describes this case better than hydrophobia. This mania was intermittent, not persistent, short periods of quiet intervening, to be broken spontaneously by some slight stimulus such as a new line in the examination or the entrance of some attendant. In order to exclude meningitis, which, however, was not thought to exist, brief anesthesia with ethyl chlorid was produced and lumbar puncture done, with the removal of 8 c.c. of perfectly clear cerebrospinal fluid.

One feature repeated so that it became noteworthy was that if allowed to hold the hand of an observer, the patient would begin to pat it affectionately, the force of the taps increasing until they were furiously violent. This may possibly be analogous to the stamping of the feet seen in rabid horses.

These maniacal outbursts continued from admission at 3:45 p. m. until 11 p. m., when they turned to a delirious talking, which kept up until 6:30 a. m., at which time the patient went to sleep for two hours and a half. From 9 a. m. until 1 p. m. she was awake and lay quiet except when disturbed by the visits of the nurses or physicians, which would be the occasion for a fresh attack of mania and struggling. In spite of treatment she was rapidly growing weaker, and at 1 p. m. coma with hyperpyrexia set in until death at 3:45 p. m., just twenty-four hours after admission.

The temperature was 105 degrees or a little above, constantly until 1 p. m., when it rose to 107.6, the last record being 109.4 taken shortly before death. The pulse-rate did not fall below 180 at any time in the hospital, and one note of 200 was made.

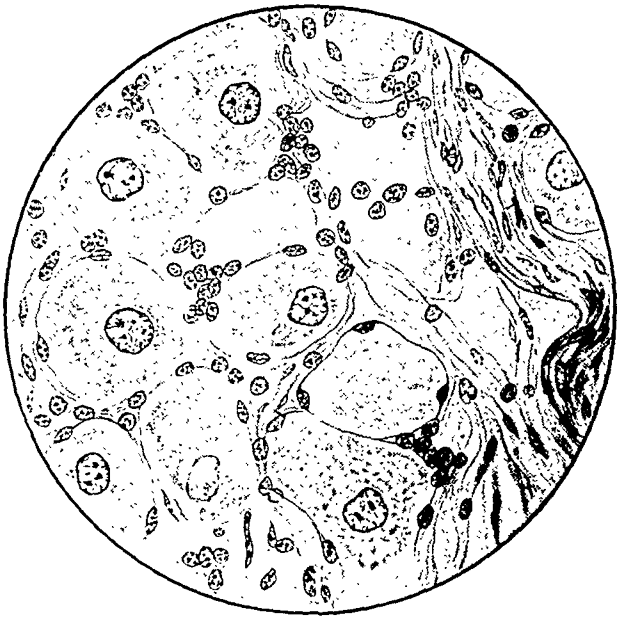

Fig. 1.—Plexiform ganglion of a normal dog. This and the following illustrations are from drawings by Karin M. Hall.

The treatment adopted was restraint by a waistband which allowed the child to sit or lie down; and celluloid mitts, so that she could not accidentally scratch the nurses. The drugs used were morphin hypodermatically, 1/16 grain at 9 and 11 p. m. and 1, 3 and 5 a. m.; sodium bromid, 20 grains at 9 p. m.; veronal 5 grains at 11 p. m. and 1 a. m.; scopolamin 1/800 grain, hypodermatically at 1 and 9 a. m.; a digitalis preparation, hypodermatically, 6 minims at 1 and 5 a. m., and 10 minims at 9 and 11 a. m. and 1 and 3 p. m.

The diagnosis in this case rested mainly on the history of a dog-bite followed by an attack of fever and mania, and on the exclusion of other processes, such as pneumonia, meningitis, endocarditis and typhoid fever.

It is rare for the disease to develop after ninety days have passed. This case of seventeen days' incubation, approaches the shortest possible period, which is said to be twelve days.

Before giving the details of our findings in this case it might be well to consider briefly the etiology of the condition. The statement credited to Aristotle (322-284 B. C.) that "lyssa (rabies) causes mania, and whatever is bitten [all] of those bitten go mad except man," is evidence that at that time the transmission of the disease to man was not known. But four centuries later opinion had changed, for Marcus Aurelius says, "To those bitten by mad dogs, water causes fear." From time to time this condition has been forcibly brought before the medical profession as well as the general public, measures have been taken by governments and municipalities to prevent the spread of the disease, and in the majority of instances when vigorous methods have been adopted and executed, the spread has been checked, thus showing the infectiousness of the disease. In England it has been stamped out, while in Germany the incidence is much reduced.

The specific cause of rabies has not been discovered. From time to time various bacteria have been put forward as the cause. They have been obtained from different organs, but from the bacteriologic point of view further study has invariably failed to satisfy the methods necessary in identifying a particular bacterium with the disease.

Not knowing the specific cause of rabies, the investigator tries to recognize some special change or changes in the tissues of the animal, which may have been brought about by the real but undiscovered cause, and which may be considered diagnostic. At various times changes have been described in the brain tissue which have been looked on as specific. The majority of these have been found on further investigation not characteristic.

Babes in 1892, through observations, stated that if by microscopic examination of the medulla oblongata and spinal cord a cellular accumulation was found in these structures, a diagnosis of rabies could be made. These cellular accumulations he described as "rabic tubercules."

Later, Nelis and Van Gehuchten following the work of Babes found proliferative changes in the walls of capillaries and lymph-spaces surrounding the larger nerve cells and ganglia. (Fig. 2). These changes consisted of a proliferation of the endothelial cells of these parts; with this there is shrinkage, chromatolysis and finally complete destruction of the nerve cell. For a time these histologic findings were considered diagnostic of rabies, and were even used in certain laboratories as a rapid diagnostic method of the disease. Later, however, similar changes were noted in conditions other than rabies.

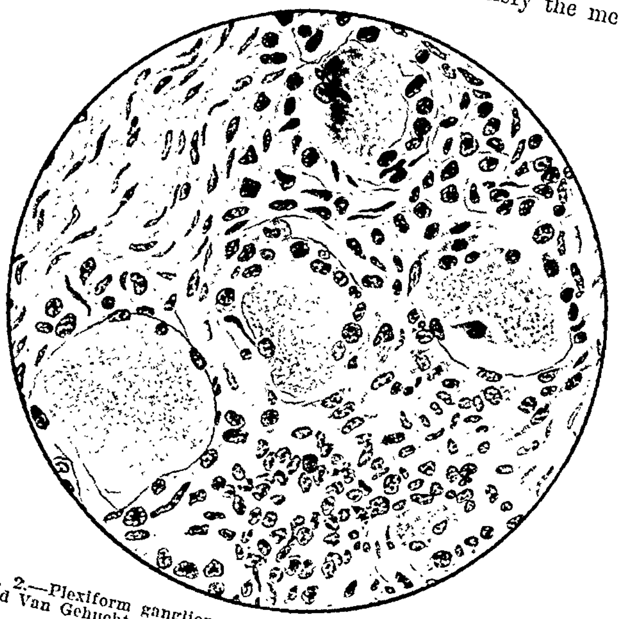

Fig. 2.—Plexiform ganglion of a dog with rabies, showing well-marked Van Gehuchten and Nelis proliferation changes.

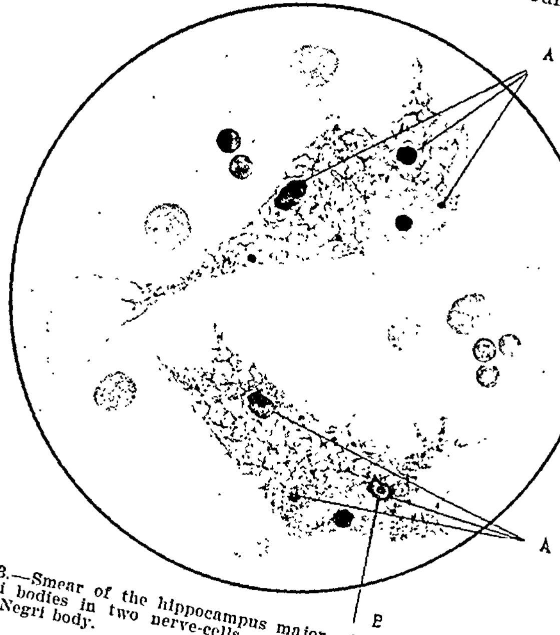

Fig. 3.—Smear of the hippocampus major, showing the presence of Negri bodies in two nerve-cells. *A, A*, Negri bodies; *B*, inner body of Negri body.

More recently bodies within cells have been noted in certain parts of the brain which are considered as diagnostic of the condition. These bodies were first pointed out by Negri, who found them in the hippocampus major, cerebellum and the Purkinje cells of the hippocampus major, cerebellum and ganglia. The Negri bodies are oval or rounded in shape, and their size varies from very minute to about 25 microns in diameter or length. Negri bodies seen in the brain of the dog of the street vary from barely visible to about 8 microns in diameter. In rabbits used for experimental work the smallest forms are found, and in the cow dying from rabies the extraordinarily large forms are found. They stain best with the basic stains. Within these bodies are smaller, irregular, rounded bodies, which take the basic stains deeply, similar to other nuclear material. With this inner body there is usually some granular material around it. In larger forms of the Negri body, several such inner bodies may be seen which are usually small and deeply staining, and irregularly distributed. In another type several small inner bodies are distributed at the periphery of the Negri body in hernia-like sacs, which suggest pseudopods. (Fig. 3).

Studies by Williams and Lowden, who consider the Negri bodies as protozoa, and by Calkins, that they are a form of the amebas or rhizopods, suggest the possible position these bodies may have in the animal world. Until the life-cycle of this body has been completed, to determine whether it is a protozoon or rhizopod, it seems well not to accept conclusively that the body is actually a parasite, as it may be the result of changes brought about by the presence of some still unknown or unobserved organism.

SUMMARY OF AUTOPSY REPORT

The lungs showed moderate congestion but no leukocytosis in the blood-vessels. There were a few hemorrhagic patches on the mucosa of the stomach. The liver and kidneys were congested and showed under the microscope moderate congestion and general cloudy swelling with small areas of early fatty degeneration but no leukocytosis in the blood-vessels. The spleen was congested, enlarged and soft, with the malpighian bodies and trabeculae not prominent; histologically the malpighian bodies were few in number and small, the central part in some having the appearance of amyloid degeneration. The dura was adherent posteriorly, the pia was congested and there was a very slight increase of fluid in the ventricles. On section, the cerebrum showed moderate congestion of the gray and white substance.

Our findings in the gross changes in the organs at autopsy, and the histologic changes in the various organs, with the exception of the brain, clearly indicate in this case an unusual process.

All the changes found in the organs were of a secondary nature and such as are frequently found from other pathologic causes. These morbid processes therefore are only indicative of some underlying condition, the gross and microscopic changes in the organs in this case not being characteristic of rabies alone; they are, however, findings similar to those reported in the majority of cases of hydrophobia or rabies.

The negative findings in the case are of particular interest to the general pathologist. Those who do not admit the existence of the condition known as rabies suggest that it may be a form of hysteria, or meningitis, or some toxemia, such as uremia and similar intoxications.

Hysteria as a pathologic condition can scarcely be considered here. It has no recognized pathology, and its symptomatology is better considered under another head. The minuter changes in the brain in this case, presently to be described, have not been noted as occurring in the condition known as hysteria.

Meningitis, however, should be carefully considered in relation to rabies. The typical case of meningitis, with the usual meningeal exudate, need not be considered here relative to our findings, because were it a typical case of meningitis, an exudate in some part of the meninges would have existed owing to the duration of the disease; but such was not the case; also the examination of the cerebrospinal fluid, obtained before death, as well as the smear preparations and cultures made at autopsy were all negative, thereby excluding meningitis.

In the rapidly fatal cases of meningitis, the result of a meningococcus infection, the brain may at the time of the autopsy be without an exudate; but in such cases edema and congestion are usually more marked, and the smears and cultures show the *Diplococcus intracellularis*.

Meningitis of tuberculous origin is not difficult to diagnose in the majority of cases, either from the finding of tubercle bacilli in the cerebrospinal fluid, obtained by puncture during life, or by the finding of tubercles in the meninges at autopsy. In some cases, however, both these methods fail to determine the diagnosis, when the finding of a tuberculous focus in some other organ is suggestive, or the histologic examination of the meninges may reveal a tuberculous condition.

In the case here reported no tubercules or tubercle bacilli were demonstrated in the stained specimen of the brain. One rabbit did not succumb to rabies, and was alive and well at the time when a tuberculous infection would have asserted itself in the animal, had the injected material been of a tuberculous nature.

EXAMINATION OF THE BRAIN

Lastly, the effect of a toxin, such as uremia, was not manifest from the findings elsewhere in a body. Therefore, with the exclusion of some general process as the cause of the condition, and of some local process, such as meningitis, the brain was carefully studied for evidence of rabies. For the purpose of this study, two methods of procedure were planned: 1. The histologic examination of the brain. Smear preparations were made from those portions of the brain which usually show definite microscopic changes. 2. Animal inoculations of portions of the brain substance made to reproduce the disease.

Microscopic Examination.—A portion of the cerebellum was removed for this purpose. Smear preparations and impressions were made on slides. In the former considerable difficulty was experienced in finding good nerve cells, and for this reason impressions were made in which better nerve cells were found, although limited in number. Only the Purkinje cells were searched for the Negri bodies. Most of the cells were clear in outline, lightly but sufficiently stained. Of the Purkinje cells carefully examined, only a few showed intracellular bodies well circumscribed and stained. These bodies stained with Van Gieson's stain—a combination of Loeffler's alkaline methylene-blue and basic fuchsin. Structures in the form of inner bodies were seen, which were large compared with the size of the average bodies found. Although the bodies were uniformly small and comparatively few, the structures and staining characteristics proved conclusively that the bodies within the Purkinje cells were Negri bodies.

Animal Inoculation Test.—The purpose of the test was to attempt to transmit the infection successfully and reproduce the disease experimentally in animals. Two rabbits were set aside and inoculated with an emulsion of the cerebellum as follows: The emulsion was made with a portion of the cerebellum, approximately weighing 1 gm., and 2 c.c. of normal salt solution; each rabbit was wrapped in a towel permitting the head to remain uncovered, and steps to inject a portion of the emulsion subdurally were proceeded with. One c.c. of a 2 per cent. solution of cocain was injected subcutaneously over the forehead as a local anesthetic. An incision was made parallel to the long axis of the head, less than 2 cm. in length, to one side of the median line, through the skin extending over the frontal bone. The soft tissues were spread apart and a small disk of bone removed with a trephine. The point of a curved needle was forced through the meninges, and several drops of the emulsion were left over the brain tissue. One suture was taken in the skin, and a covering of celloidin and cotton was placed over the wound.

The rabbits were kept under ordinary laboratory observation. On the twenty-fifth day following the inoculation, one rabbit was found dead. The brain of the rabbit was removed and in smear preparations made of portions of the cerebellum and hippocampus major, Negri bodies were readily demonstrated. From this it was concluded that the rabbit died of rabies, as a result of the inoculation of the emulsion of cerebellar tissue. The second rabbit was kept under observation for 120 days without having shown any symptoms. As the period of incubation of rabies in rabbits rarely exceeds 100 days, the conclusion was reached that the second rabbit had resisted infection. The animal inoculation test, however, in the development of rabies in one of the two rabbits conclusively proved the existence of the disease in the cerebellum of the child.

CONCLUSIONS

With the history of the disease extending through centuries, with sporadic cases as well as epidemics following the path of a rabid dog, with a symptom-complex typical and characteristic following within a limited incubation period, with a fatal termination invariably following untreated cases, with a prophylactic treatment insuring a favorable prognosis, with a negative pathologic picture in the cases, and finally with microscopic lesions, which are constant, it would seem folly at least to continue in this age of preventive medicine to look on these cases as caused by other than some specific agent, infectious, and transmissible to human beings.

THE BRANCHED FORMS OF THE TUBERCLE BACILLUS, AND IMMUNITY TO TUBERCULOSIS

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Koch,[1] in 1882, announced that he had discovered a rod-shaped microorganism, either straight or curved and frequently beaded, which produced tuberculosis. This simple form was, I believe, accepted as a constant character until 1889, when I observed a different morphology[2] which at once suggested another cycle in the life of the tubercle bacillus of Koch. It was of the bovine type grown on a glycerinated agar medium and subjected to great variations of temperature. Instead of the well-known rod-shaped bacilli the field showed beautiful branched and budding forms, as shown in the copy from the original illustration (Fig. 1).

At that time I suggested the probability that we were dealing with involution forms and that they possessed a lower degree of virulence. This hypothesis was confirmed by von Metnischkoff,[3] who further contributed to the studies of the granular forms. These branched tubercle bacilli have frequently been found since that time in culture mediums. *In vivo* they have been found in the serums of rabbits which have had experimental injections made into the brain. During 1891 Allen J. Smith found them in human sputum.

Maffucci[4] described thread-like forms, branching like the mycelia. Klein,[5] in 1890, described dichotomous and lateral branching attached at right angles. Koch,[6] Flugge,[7], Czaplewski,[8] Fischel,[9] Koppen Jones[10] and many others have studied the form changes resulting in granulation, vacuolization, the production of spore-like bodies and the various changes suggesting the relation to the trichomycetes.

The first observation was made on a chance culture; but since the discovery of these forms I have been able, at any time, to reproduce them on artificial mediums.

In culture four weeks old, particularly in the presence of high temperatures, the branching constantly appears. The effect of high temperature has some confirmation in the fact that I found[11] the branched forms in 1892, when studying the avian type in the liver of the Mexican green jay (*Xanthoura luxosa*).

While the tubercle bacillus is mesophilic in the sense that it grows best at the optimum normal human temperature (37 C., 98.6 F.) the thermal death-point according to some authorities is 90 C. (194 F.), but in our work has been 70 C. (158 F.); this high limit of temperature gave opportunity to study the variation of form under a wide variation of thermal and nutritional conditions. The most favorable temperature for the full development of the involution forms, as shown in our laboratory work, is from 52 to 56 C. (125.6 to 132.8 F.). Dehydration would seem to be a factor in bringing about the change of form. This work has been carried out in the laboratories of the Pennsylvania State Department of Health under my direction by Drs. J. B. Rucker, Jr., and Alexander Garcia, and to-day they are able at will t

branched forms. three

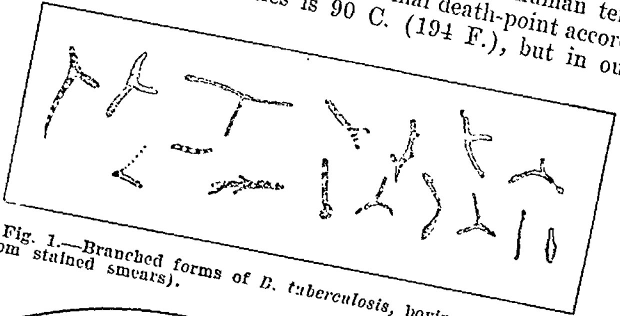

Fig. 1.—Branched forms of *B. tuberculosis*, bovine type (drawn from stained smears).

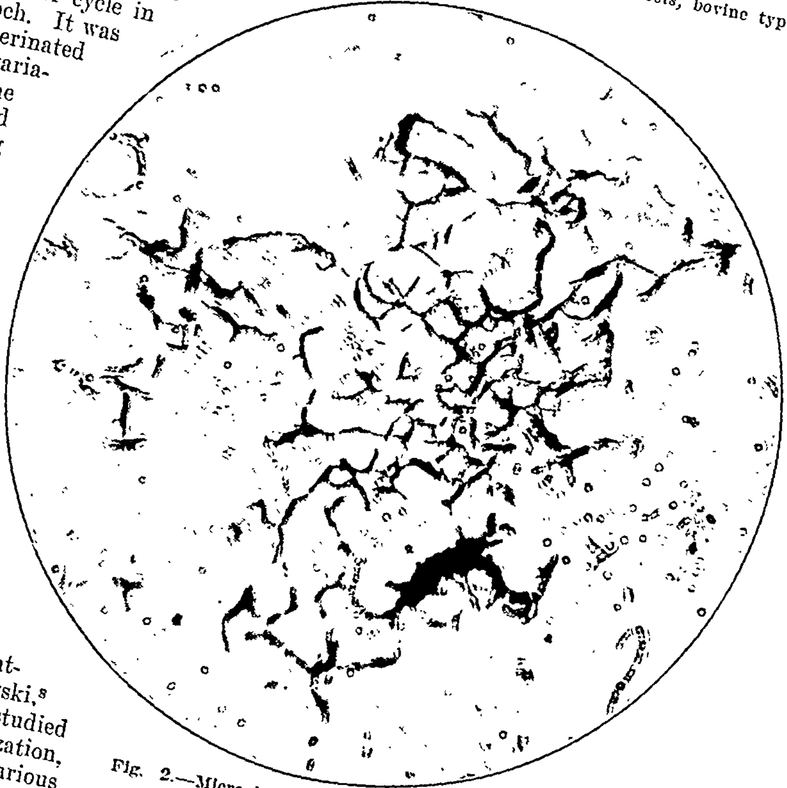

Fig. 2.—Microphotograph of branched forms, human type.

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1. Koch: Berlin. klin. Wchnschr., 1882.
2. Dixon: Med. News, Oct. 19, 1889.
3. Von Metnischkoff: Virchows Arch. f. path. Anat., cxiii.
4. Maffucci: Ztschr. f. Hyg., ii, xi.
5. Klein: Centralbl. f Bakt., 1890, vii: 1892, xii.
6. Koch: Rep. Tenth Int. Med. Cong., Berlin, 1890.
7. Flugge: Die Mikroorganismen.
8. Czaplewski, E.: Die Untersuchung des Auswurfs auf Tuberkelbacillen, Jena, Gustav Fischer, 1891.
9. Fischel: Untersuchungen über die Morphologie und Biologie des Tuberkulose Erregers. Wien und Leipzig, 1893, Wilhelm Braumüller.
10. Jones, Koppen Centralbl f Bakteriol. 1895.

11. Dixon: Proc. A

selected cultures, namely, No. 1, bovine, No. 2, human and H-37 Saranac Lake human (Fig. 2).

Coincident with the ability to bring about these morphologic changes, a certain orderly development of the life-cycle has been observed in all three cultures. This metamorphosis occurs in the following successive changes: first, the development of branched forms which are acid-fast and show the presence of granulations suggesting the conidia of the higher molds; second, a non-acid-fast form corresponding to that described by Ferran;[12] third, a dust-like non-acid-fast material; fourth, a non-acid-fast "tuberculous mud," a substance without definite morphology, which in appearance corresponds to that produced by the drying of a drop of water on a cover-glass; fifth, a non-acid-fast form similar to the nocardial (streptothrix) form of higher fungi and, lastly, the appearance of an aspergillus-like form (Figs. 3 and 4).

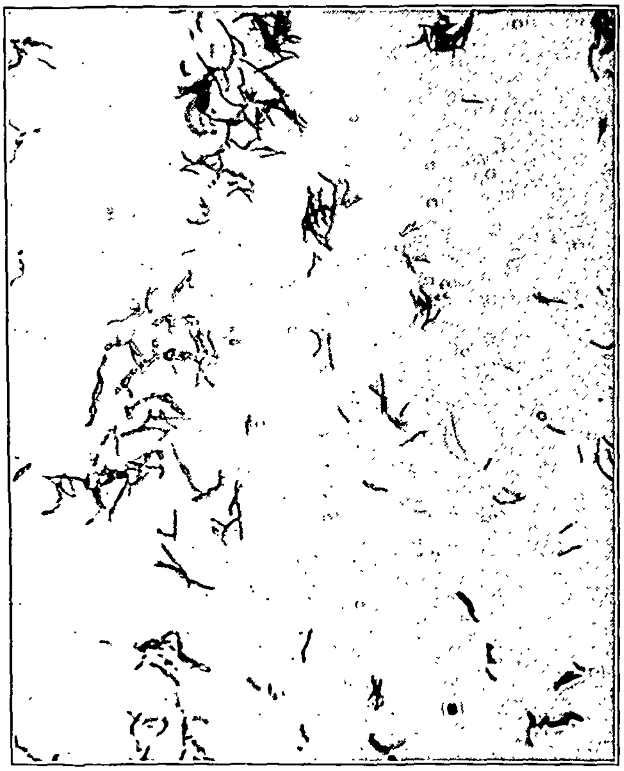

Fig. 3.—Forms showing nodulation, human type.

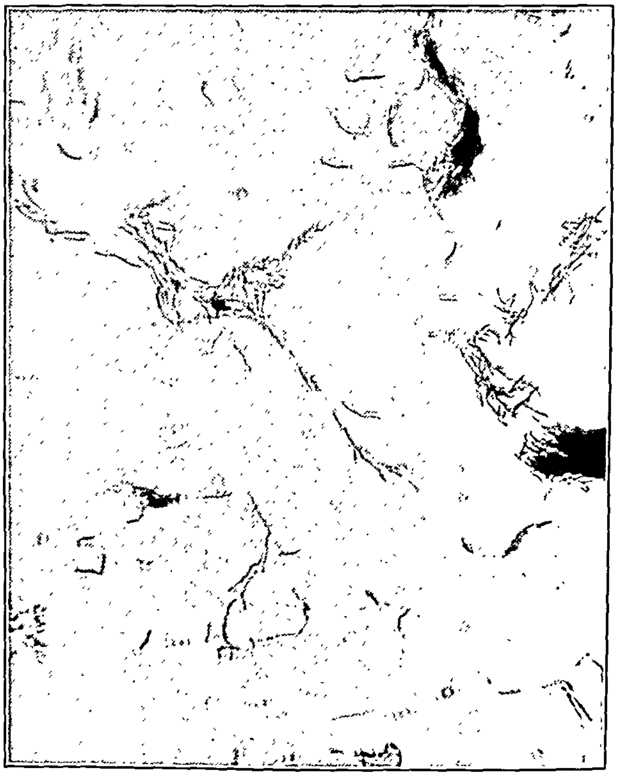

Fig. 4.—Forms showing the production of conidia-like bodies, human type.

Attention has previously been called to the fact that the waxy envelope of the tubercle bacillus is in all probability the substance which gives to them their acid-fast characteristics. The development of non-acid-fast forms under the circumstances cited would indicate that this protective envelope has largely disappeared. In a series of experiments[13] undertaken to determine the effect of injections of the tubercle bacillus wax (when injected subcutaneously or intraperitoneally into laboratory animals) it is shown that it had a decided influence on the bile-duct and bronchiolar epithelium. The morphology and arrangement of the new cells, particularly in the glands of the larger bronchioles, show changes suggestive of carcinoma simplex, although by search one can find a well-formed complete basal membrane. This can be explained only on the basis of some attraction between the epithelium and the tubercle bacillus product. It is suggestive that the effect of tubercle bacillus wax is to produce an overgrowth of epithelial tissue, while the more marked effect in the production of an immunity is obtained by products which do not contain this wax. If this reasoning is correct the non-acid-fast types are products in the form which produces immunity and, possibly, with the least toxicity.

On the basis of the theory that the branched forms represented a life-cycle not only of morphologic change, but also of reduced virulence, I advanced the suggestion[2] that it might be possible to establish tolerance for the *Bacillus tuberculosis* either (1) by treating animals with a tuberculous filtrate or (2) by inoculating animals with bacilli, the virulence of which had been reduced by the above-described methods.

In accordance with the first hypothesis, I produced a watery extract[14] which produced a marked degree of immunity[15] in the laboratory animals and was improved as improved technic was adopted, resulting in the following methods:[16] The tubercle bacilli are grown on 4 per cent. glycerin veal broth for a period of from six to eight weeks at a temperature of 37.5 C. (99.3 F.). They are removed from the incubator and collected on hard filter-paper. The filtrates of glycerin broth on which they are grown are discarded. An equal quantity, by weight, of tubercle bacilli of the bovine and human type is used. The mass of organisms is partially dried of the excess of moisture by placing between two sterile filter-papers and afterward placed in a dish in the incubator for from twenty-four to forty-eight hours. The dried organisms are then washed in an excess of ether, which is allowed to act until it has removed all of the water and glycerin. The organisms are then subjected to an excess of fresh ether and washed in this for six hours to soften the wax of the bacilli. This fat separates so that it collects at the bottom of the vessel and is removed by a Pasteur pipet. After the second addition of ether is removed, the mass is allowed to dry until no ether odor is perceptible. After the mass of tubercle bacilli has been thoroughly dried, it is ground in a mortar and suspended in physiologic salt solution in the proportion of 1 part of the ground mass to 5 parts of an 8 per cent. salt solution. This suspension is carried in a shaking-machine for from eight to ten hours and then allowed to stand for several days at room temperature. It is finally passed through impervious bacteria filters several times and the filtrate is examined microscopically, bacteriologically and physiologically. Culture-tests are made to determine its freedom from contaminating organisms, and guinea-pigs are inoculated to ascertain that it contains no living tubercle bacilli. One c.c. of this extract represents 0.5 gm. of the organisms, and is known as the stock solution from which serial dilutions are made. This solution is sterile, though a preservative of 0.5 per cent. of phenol (carbolic acid) is added to prevent any subsequent contamination. This extract is put up in syringes in a series of dilutions so that the doses may be increased as deemed advisable. Small repeated doses of this extract when injected into normal guinea-pigs caused no effect on their temperature, weight or general condition.

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[12] Ferran: Wien. klin. Wchnschr., 1898, No. 28.

[13] Dixon, S. G., Smith, A. J., and Fox, H.: Pennsylvania Health Bull., June, 1911, No. 24; Effect of Tubercle Products on Epithelium, The Journal A. M. A., Sept. 2, 1911, p. 800.

[14] Dixon: Med. News, Philadelphia, Jan. 17, 1891.

[15] Dixon: Med. and Surg. Rep., Sept. 6, 1890; Second Ann. Rep. Henry Phipps Inst., Philadelphia, 1904. Lauder-Brunton, Sir T.: Nature, Nov. 20, 1890.

[16] Pennsylvania Health Bull., October, 1911, No. 24.

In addition to the extract a suspension of dead tubercle bacilli was prepared which has been found from careful use to be of value in certain selected cases, which are more tolerant to the toxins of the microorganism.

The preparation is a suspension in physiologic salt solution of tubercle bacilli which have been degreased by prolonged treatment with alcohol and ether. The tubercle bacilli are grown on 4 per cent. glycerin veal broth for from six to eight weeks at a temperature of 37.5 C. After the cultures are removed from the incubator, the tubercle bacilli are killed by subjecting them to steam sterilization for one hour. The tubercle bacilli are then collected on hard filter-paper and the filtrate is discarded. An equal quantity, by weight, of tubercle bacilli of the human and bovine type is used. This bacillary mass is dried of the excess moisture between layers of sterile filter-paper and afterward placed in the incubator at 37.5 C. for twenty-four hours. It is then dried in a vacuum desiccator over either sulphuric acid or calcium chlorid, until the mass has become dry and brittle, exhibiting a brownish color. The dried tubercle bacilli are then disintegrated by grinding in a mortar and afterward placed in Soxhlet's apparatus. The first extraction is done with absolute alcohol and is continued until the brown color of the distillate has disappeared, which requires from two to four hours. The alcohol is then replaced by ether and the extraction continued until the ethereal distillate is practically clear. The extraction by ether necessary to bring about a clear distillate requires from eight to ten days of ten hours each. When the extraction is complete, the mass of tubercle bacilli is dried twenty-four hours at 45 C. (113 F.). The resulting mass of tubercle bacilli consists of dirty, yellowish-gray granules, which break up easily into small particles. These particles are not soluble in water, salt solution, alcohol or ether. They are ground up into a fine powder in a porcelain ball mill. Definite quantities of the tubercle bacilli powder are inoculated into normal guinea-pigs to determine its freedom from living tubercle bacilli. Suspensions are then prepared of the degreased ground bacilli in physiologic salt solution. These suspensions are proved to be sterile by microscopic and cultural examinations. As a further precaution against subsequent contamination, 0.5 per cent. of phenol is added. The suspensions are put up in carefully selected strengths in syringes, ready for injection.

The clinical results of the use of the extract (T. B. E.) were recently reported by Francine and Hartz,[17] and the use of both extract (T. B. E.) and the suspension (T. B. S.) was reported by Johnson and Berry.[18] In accordance with the second hypothesis, experiments have been repeatedly made on lower animals in injecting the involution forms, particularly into guinea-pigs. Every result indicates the development of marked resistance to lethal doses of virulent tubercle bacilli. More recently we have injected emulsion of salt solution containing as high as 20 mg. of the living forms into guinea-pigs with no evidence of either a local or general reaction at the end of seven days. The injection of 1 mg. of the original culture from which the involution forms are produced shows local and systemic reaction within forty-eight hours, with the production of generalized tuberculosis and death usually at the end of six weeks.

As a result of these observations it is apparent that we have shown the tubercle bacillus to have a cycle of life not previously recognized, with a morphology suggesting the higher molds. It is now our endeavor to find a culture medium on which, under suitable temperature conditions, tubercle bacilli will reproduce the rod-shaped forms.

In the branched forms we have a reduced virulence and have produced a marked degree of immunity in lower animals with branched forms of the living bacilli.

These facts are in accordance with the results attained in the clinical use of the watery extract and the suspension of degreased bacilli, which results, obtained to-day, seem to confirm those of 1889.

THE FINDING OF ACID-FAST BACILLI IN THE CIRCULATING BLOOD *

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That tubercle bacilli occur in the blood-stream in advanced stages and miliary forms of tuberculosis has long been an established fact. The theory that tuberculosis is primarily a bacteriemia dates back to the work of Rosenberger,[1] who claimed to have found tubercle bacilli in the blood-stream in all cases of tuberculosis; this he demonstrated in tuberculous pharyngitis, laryngitis, lupus, bone and pulmonary tuberculosis, and other forms. His work was confirmed by Forseyth,[2] Petty and Mendenhall[3] and others.

Brem[4] cast doubt on Rosenberger's findings by reporting the finding of acid-fast bacilli in distilled water. These he called

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[17] Francine and Hartz: Trans. Col. of Phys., Philadelphia, January, 1913; Results with Tuberculin (Dixon's) in Advanced Chronic Ambulatory Tuberculosis, THE JOURNAL A. M. A., March 8, 1913, p. 717.

[18] Johnson and Berry: Report of Commr. of Health, Pennsylvania, 1911; Dept. of Health Bulletin, November, 1912, No. 40.

* From the Laboratory, Edward Sanatorium, Naperville, Ill.

[1] Rosenberger: Am. Jour. Med. Sc., February, 1909; New York Med. Jour., June, 1909.

[2] Forseyth: Brit. M 1909.

[3] Petty, O. H. and Tubercle Blood, THE JOURNAL A. S

[4] Brem, Walter V.: THE JOURNAL A. M.

Bacillus citratis and they were supposed to be identical with the acid-fast bacilli found by Rosenberger.

Recently Kurashigi[5] using the Kurashigi-Schnitter method, reported finding tubercle bacilli in all cases of tuberculosis, using controls in all tests. This work has been confirmed by Kennerknecht and other German investigators.

The Kurashigi-Schnitter method is as follows:—Draw 1 c.c. of blood from one of the arm veins; add this to a tube containing 5 c.c. of a 3 per cent. solution of acetic acid and allow to stand one-half to one hour; centrifugalize one-half hour; pour off the top liquid; dissolve the sediment in 5 c.c. of concentrated antiformin; when dissolved, add 5 c.c. of absolute alcohol; then centrifugalize one-half hour; decant this supernatant liquid and wash the snow-white sediment with distilled water; centrifugalize and spread the sediment on clean glass slides and stain. The average time spent in searching slides was about one-half to two and a half hours. The bacilli when found usually occurred in loose clumps.

Following this method we have examined at the Edward Sanatorium, twenty-six incipient, twenty moderately advanced and four far-advanced cases of pulmonary tuberculosis, finding acid-fast bacilli morphologically identical with the tubercle bacilli in all of them. We were also able to demonstrate the acid-fast bacilli in five apparently normal individuals.

We examined the water used for acid-fast bacilli. The tests were made by adding a small amount of albumin to the test-tube containing the water, thoroughly shaken, then centrifugalizing one-half to one and a half hours and examining the sediment. The results were uniformly negative.

Other tests were made by adding a small loopful of tubercle bacilli to a test-tube containing 1 c.c. of water and a small amount of albumin and carried through the Kurashigi-Schnitter method. These tests showed a concentration of the tubercle bacilli in clumps. To eliminate a possibility of a crystal we made a series of tests, using a combination of acetic acid, alcohol and albumin—acetic acid and solution of alkalies and antiformin. In none of these tests were we able to demonstrate acid-fast crystals similar to those found in the blood examination.

We wish to thank Dr. Theodore B. Sachs, medical director of the sanatorium, for the opportunity of studying these cases.

Therapeutics

DISTURBANCES OF THE HEART

(Concluded from page 903)

THE HEART IN PNEUMONIA

As pneumonia heads the list of the causes of death in this country, and as the heart fails so quickly, sometimes almost in the beginning, in pneumonia, a special discussion of the management of the heart in this disease is justifiable.

Acute lobar pneumonia may kill a patient in twenty-four or forty-eight hours; he may live for a week and die of heart failure or toxemia, or he may live for several weeks and die of cardiac weakness. If he has double pneumonia he may die almost of suffocation. It is to-day just as frequent to see a slowly developing and slowly resolving pneumonia as to see one of the sthenic type that attacks one lobe with a rush, has a crisis in seven, eight or nine days, and then a rapid resolution. In fact the asthenic type, in which different parts of the lung are involved but not necessarily confined to or even equivalent to one lobe, is perhaps the most frequent form of pneumonia.

The serious acute congestion of the lung in sthenic pneumonia in a full-blooded, sturdy person with high tension pulse may be relieved by cardiac sedatives, vasodilators, brisk purging, or by the relaxing effect of antipyretics. Venesection is often the best treatment.

When the sputum almost from the first is tinged with venous blood, or even when the sputum is very bloody, of the prune-juice variety, the heart is in serious trouble, and the right ventricle has generally become weak and possibly dilated. The heart may have been diseased and therefore is unable to overcome the pressure in the lungs during the congestion and consolidation.

There is a great difference in the belief of clinicians as to the best treatment for this condition. It would seem to be a positive indication for digitalis, and good-sized doses of digitalis given correctly, provided always that the preparation of the drug used is active, is good and, many times, efficient treatment. Small doses of strychnin may be of advantage, and camphor may be of value. In the condition described, however, reliance should be placed on digitalis. Later in the disease when the heart begins to fail, perhaps the cause is a myocarditis. In this condition digitalis would not work so well and might do harm. It is quite possible that the difference between digitalis success and digitalis non-success or harm may be as to whether or not a myocarditis is present.

If the expectoration is not of the prune-juice variety and is not more than normally bloody, or in other words, typically pneumonic, and the heart begins to fail, especially if there is no great amount of consolidation, the left ventricle is in trouble as much as the right, if not more. In this case all of the means above described for the prevention of any dilatation of the heart will be means of preventing dilatation from the pneumonia, if possible. The treatment advisable for this gradually failing heart is camphor; strychnin in not too large doses, at the most 1/30 grain hypodermatically once in six hours; many times ergot intramuscularly once in six hours for two or three doses and then once in twelve hours; plenty of fresh air, or perhaps the inhalation of oxygen. Oxygen does not cure pneumonia, but may relieve a dyspnea and aid a heart until other drugs have time to act.

If there is insomnia, morphin in small doses will not only cause sleep, but will not hurt the heart. In the morning hours of the day the value of caffein as a cardiac stimulant and vasocontractor, either in the form of caffein or as black coffee, should be remembered. Strophanthin may be given hypodermatically. One of the greatest cares in the treatment of heart failure in pneumonia should be not to give too many drugs or to do too much.

SHOCK

The treatment of shock will probably always be unsatisfactory as the cause is so varied, and, although circulatory prostration and vasomotor paresis always constitute the acute condition, the physiologic health of the heart and blood-vessels is so varied. The patient in shock has low temperature, low blood-pressure, and a pulse either rapid or slow, but excessively feeble; the face is pale, the surface of the body cold, and there is more or less clammy perspiration; there may be dyspnea and cardiac anxiety, or the patient may hardly breathe.

An acute cause, as terrible pain or hemorrhage, must of course be stopped immediately. There is more or less anemia of the brain, and therefore the legs and perhaps the lower part of the body should be elevated. It may even be wise to drive the blood from the legs by Esmarch bandages into the rest of the circulation. As there is always more or less paresis and dilatation of the large veins of the splanchnic system, a tight bandage about the abdomen is of great advantage in raising the blood-pressure to the safety mark.

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[5] Brauer: Beitr. z. Klin. d. Tuberk., 1912, xxiii, No 2.

Strophanthin, given hypodermatically, is valuable as a quick restorative of the heart. Digitalis is so slow that it is of little value in an emergency. Camphor hypodermatically, and hot liquids (nothing is better than black coffee) given by the mouth, are valuable remedies. The camphor may be repeated frequently. Strychnin, the long-used stimulant, should generally be given, but in not too large doses and not too frequently repeated; 1/30 grain hypodermatically is generally a large enough dose; this dose may be repeated in three or four hours, but should ordinarily not be given oftener than once in six hours. An aseptic preparation of ergot given intramuscularly is most efficient in raising the blood-pressure and aiding the heart. Aromatic spirit of ammonia, if at hand, may be the first remedy tried, and one dose of brandy or whisky may do no harm. Alcohol, however, should not be pushed.

A most important procedure in all kinds of shock is to surround the patient with dry heat, hot-water bags, and hot flannels; gentle friction of the arms and legs, unless the patient is too exhausted, may be of benefit. A hot-water bag to the heart is always a stimulant. Sometimes friction over the base of the heart in the region of the auricles is of benefit.

If the collapse is not acute and there is gradual profound prostration, or if the patient is improved but still in a serious condition of shock, too energetic measures must not be used; neither should too many drugs be administered, or drugs in too large doses. Absolute quiet and the administration of liquid nourishment in but small amounts at a time are essential.

The hypodermatic administration of epinephrin solutions, 1:10,000, or solutions of pituitary extract, 1:10,000, should be considered; they are often valuable.

If the shock occurs in ether or chloroform anesthesia, the vasopressor stimulating effect of inhalations of carbon dioxid gas may be considered, as advised by Henderson.[1]

If the shock is due to hemorrhage and the hemorrhage has ceased, a transfusion of physiologic saline solution is generally indicated. Sometimes transfusion of blood under the same conditions would be still better. Rarely is transfusion indicated in shock from other causes; it often adds to the difficulty rather than improves it. Occasionally if shock is decided to be due to a toxemia, the toxins may be diluted by the withdrawal of a small amount of blood and the transfusion of an equal amount of saline solution.

ACUTE DILATATION OF THE STOMACH

This condition is not well understood, nor is its frequency known, but not a few instances of shock are due to dilatation of this organ. The shock to the heart may be a reflex one through the pneumogastric nerves. It perhaps not infrequently occurs after abdominal operations and is more or less serious, the symptoms being persistent vomiting, upper abdominal distention and collapse. The vomiting is of bloody or coffee-ground material.

Sometimes the ordinary treatment of the collapse and washing out the stomach save the patient; at other times the patient with this series of symptoms dies in spite of all treatment.

It has been shown that acute dilatation of the stomach may occur in pneumonia, and may be one of the causes of cardiac collapse in pneumonia.

When the condition is diagnosed the treatment would be that of shock plus an abdominal bandage and washing out the stomach with warm solutions, if the patient is not too collapsed, or at any rate the frequent administration of hot water in small quantities.

Sometimes when the stomach is dilated the pylorus becomes insufficient, and bile regurgitates into the stomach, and is a cause of the profound nausea and vomiting and the subsequent collapse. In these cases not infrequently small doses of dilute hydrochloric acid seem to aid the pylorus to maintain its normal contraction, the regurgitation of bile does not take place, and the stomach may soon acquire a more normal muscle tone. Not infrequently when a stomach is in this kind of trouble and all foods are rejected, and yet the patient seriously needs nourishment, a warm, thin cereal, as oatmeal gruel or something similar, may be retained. Such patients, as has been repeatedly stated, need starch as soon as possible, lest an acidosis develop.

In these vomiting and collapse cases the hypodermatic administration of morphin and atropin will not only stop the vomiting, at least temporarily, but will give necessary rest. The dose of morphin need not be large, and the atropin may prevent nausea from the drug.

ANESTHESIA IN HEART DISEASE

While no physician likes to give an anesthetic to a patient who has valvular disease of the heart, and no surgeon cares to operate on such a patient unless operation is absolutely necessary, still in valvular disease with good compensation the prognosis of either ether or chloroform narcosis is good.

When there are evidences of chronic myocarditis or a history of broken compensation, and the borderline of compensation and dilatation is very narrow, or when there is arteriosclerosis, the danger from an anesthetic and an operation is much greater; it may be serious in fact, and the decision must be made whether the operation is absolutely necessary or not. Under any circumstances it is understood that the anesthetist must be an expert, as there can be no carelessness and nothing but the best of judgment in giving anesthesia in cardiac defect.

The anesthetic to select is a subject for careful decision, as one cannot assert which anesthetic is the best. While chloroform seems occasionally to cause a fatty degeneration of the heart, or if given too rapidly at first may cause sudden death, especially in cardiac weakness, ether has its disadvantages, owing to the increased tension (especially if there is likely to be much muscular or cerebral excitement), and the greater amount of ether that must be given, with the attendant danger to the kidneys, which may have been disturbed from the cardiac conditions. Generally, however, the better method is perhaps to administer first chloroform to the point of producing sleep and then to change to ether, the first mild chloroform narcosis preventing the ether from causing acute stimulation, and ether being better for the operation as it is more of a stimulant.

Some believe that it is better to administer morphin, with perhaps atropin hypodermatically before the anesthesia, and then to use ether. Nitrous oxid gas would be contra-indicated as tending [illegible] arterial pressure, and therefore endang[illegible] heart; it [illegible] serious danger to damaged [illegible]

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[1] Henderson: Am. Jour. Physiol., February and April, 1909.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

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SATURDAY, MARCH 29, 1913

THE PORPHYRINS IN PATHOLOGY

The chemist Nencki, some time before his death, succeeded in preparing from hematin, the ferruginous fragment of the blood-pigment, two crystalline compounds which were designated as "hematoporphyrin" and "mesoporphyrin," respectively, and showed a close similarity by the spectroscopic test, the method of examination so commonly applied to hemoglobin derivatives. Subsequent investigation has demonstrated, however, that the two porphyrins, alike though they may be in their optical behavior, are chemically distinct compounds. Hematoporphyrin owes its origin to a process involving oxidation; mesoporphyrin requires reduction reactions for its production; and perhaps the possibility of still other iron-free hematin derivatives is not even here exhausted.

Under a variety of pathologic conditions there is found in the urine in noteworthy amounts a substance which is ordinarily spoken of as hematoporphyrin. Hematoporphyrinuria is familiar as a symptom of poisoning with sulphonal and trional, for example. Inasmuch as the conventional way of identifying this pathologic urine pigment is by means of spectroscopic examination, and the isolation of the so-called urinary hematoporphyrin in any reasonable degree of chemical purity has not yet been satisfactorily accomplished, it appears difficult to decide (in view of their spectroscopic similarity) as to which one of the now known distinct porphyrins actually constitutes that substance with which the clinician is familiar.

The final answer to the problem can perhaps not be given until the urinary porphyrin is actually isolated as such. Certain recently discovered biologic properties of the porphyrins may, however, throw light on the question. Tappeiner and his pupils in Munich have shown that by means of so-called photodynamic substances, among which fluorescin may be cited in illustration, it is possible to sensitize organisms to the harmful action of light.

Hausmann has extended this work to show that chlorophyl and the related substance hematoporphyrin prepared from the blood-pigment may exert a similar photodynamic influence.[1] Red blood-corpuscles, for example, are hemolyzed by hematoporphyrin only in the light. White mice, injected with small quantities of the same porphyrin, remain normal for weeks when kept in the dark. Exposed to the light, however, they quickly develop characteristic symptoms of intoxication accompanied by a dread of the light, dyspnea, inflammation and swelling of the ears and edema of the skin, resulting in speedy death.

In Friedrich Müller's clinic at Munich, Fischer and Meyer-Betz[2] have investigated the photosensitizing properties of the two porphyrins prepared in a high state of purity. They were able to verify Hausmann's observations on the photodynamic properties of hematoporphyrin in equally striking experiments. The contrast between injected animals in the dark and in the sunlight belongs among the spectacular and almost mysterious phenomena which the biologic sciences furnish so frequently. Pure mesoporphyrin, on the other hand, is apparently devoid of all photosensitizing influence, though it appears to exert a slight toxic action. Porphyrin prepared from the blood derivative hemin by reduction and subsequent oxidation — a process quite within the possibilities conceivable for the animal organism — behaved like the hematoporphyrin.

The existence of specific compounds which are known to arise in the organism under certain pathologic conditions, and which can exert such a marked sensitizing power toward light, has more than a passing medical interest. A skin affection sometimes designated as "hydroa aestiva" and connected with the strong action of sunlight often shows an association of the exanthem with the appearance of hematoporphyrin in the urine.[3] Rabbits in which hematoporphyrinuria has been developed by sulphonal respond with skin affections to intense illumination.[4] Other cases attended with porphyrin in the urine, for instance, syphilis of the liver, have been reported to develop necroses in the portions of the body exposed to light. Numerous other illustrations of real or alleged hypersensitiveness to light, as they have been reported in the curious response of certain individuals to buckwheat ingestion and in pellagrins, might be cited here; but the discussion of this interesting and little-explored domain would lead us too far afield.

HEALTH OF ALASKAN NATIVES

We have previously noted[5] the poor conditions of health and sanitation obtaining among the natives of Alaska. This territory is one-fifth as large as the entire United States and presents features of inaccessibility, climate and lack of means of communication which make medical relief work exceedingly difficult. In 1900 the census figures placed the native population of Alaska at 29,536, while in 1910 it had fallen to 25,331, a decrease of 4,205, or 14.5 per cent. Surgeon M. H. Foster of the Public Health Service reported, Aug. 11, 1911, that at Sitka the fairly reliable statistics of the churches placed the annual birth-rate for a period of five years and seven months at 72.3 per thousand, and the annual death-rate for the same period at 85.4 per thousand, which gives a decrease of 13 per thousand. In the year 1912 the birth-rate was 24 per thousand and the death-rate 29.3, a decrease of but 5.3 per thousand in population. Yet in spite of this evident improvement in Sitka, which has probably resulted from the organized efforts of the Bureau of Education, health conditions among the Alaskan natives at large are far from satisfactory.

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[1] Hausmann, W.: Biochem. Ztschr., 1908, xiv, 275; xv, 12; 1909, xvi, 294; 1910, xxx, 276.

[2] Fischer, H., and Meyer-Betz, F.: Zur Kenntnis der Porphyrinbildung, Ztschr. f. physiol. Chem., 1912, lxxxii, 96.

[3] Ehrmann, S.: Arch. f. Dermat. u. Syph., 1909, xcvii, 83.

[4] Perutz, A.: Wien. med. Wchnschr., 1910, xxiii, 122.

[5] Health Conditions in Alaska, editorial, The Journal A. M. A., March 9, 1912, p. 704.

On request of the Secretary of the Interior, Passed Assistant Surgeon Emil Krulish of the federal Public Health Service was detailed to investigate the health and sanitation of the Alaskans under the Commissioner of Education. Dr. Krulish spent from April to November, 1912, in this work, and his observations and recommendations are incorporated in a report to the Commissioner of Education under date of Jan. 22, 1913, this report being forwarded to the Secretary of the Interior, Jan. 25, 1913. The report fully corroborates the findings of Surgeon Foster, on which we have commented editorially.[1] The incidence of disease is found to vary somewhat in different parts of Alaska, syphilis being most prevalent in the southwestern part, eye diseases in the southeast and pulmonary tuberculosis among the Eskimos. These are the most destructive and dangerous forms of disease among the natives. Dr. Krulish found 23 per cent. of the natives in southern Alaska to be suffering from some form of eye trouble, whereas only 6 per cent. of the Eskimos were so affected. In southwestern Alaska 13 per cent. of the natives suffered from trachoma. The report estimates that 80 per cent. of the blindness and partial loss of vision among the natives could have been prevented by appropriate treatment in the early stages.

The most serious menace is tuberculosis, which, "if not eradicated in the near future, will exterminate the native population of Alaska in the course of sixty or seventy years." The disease is present in all forms, especially in the pulmonary, osseous and glandular types. Several cases of spinal tuberculosis were observed, followed by paralysis. Dr. Krulish places the degree of tuberculous infection among the native population at 15 per cent. In 7 per cent. it is in an active stage. The principal reasons for this wide infection lie in the insanitary housing conditions and personal habits of the natives. The houses are poorly ventilated and overcrowded. The natives commonly spit on the floor, use a common towel and "drink from the same tea-pot spout." These conditions also contribute largely to the spread of syphilis and trachoma.

Dr. Krulish recommends the establishment of a system of hospitals for the trachomatous, syphilitic and tuberculous, and the employment of field nurses for the actual care of patients in their homes and to instruct the natives in sanitary and health matters. The present medical relief work in Alaska should be extended and put on a permanent basis. The estimated expense for the erection, equipment and maintenance of a chain of hospitals, for salaries of physicians, nurses and attendants, traveling expenses, drugs and supplies for the first year would be about $274,600, and the future maintenance of this service would require about $160,000 annually. An appropriation of at least $125,000 is necessary to begin the work on an adequate basis.

It is certainly poor economy for the government to maintain schools and no hospitals. The health conditions will become progressively worse if nothing is done, and it is to be hoped that immediate and adequate provision will be made by Congress for this important work.

CARBON DIOXID AND APNEA

Physiologic anomalies not infrequently furnish the clue to the explanation of obscure processes in the organism. We have at various times referred to the probable importance of carbon dioxid as a regulator of physiologic functions, particularly in relation to respiration and the circulation.[1] Concordant with the generally accepted view of the rôle of carbon dioxid is the well-known fact that forced breathing is usually followed by a period of apnea of a duration depending on the extent to which the forced breathing has been performed.

The obvious explanation of this phenomenon is that with the sweeping out of the carbon dioxid from the circulation through the enhanced lung ventilation, the content of the blood in this stimulant to the respiratory center is reduced below the threshold of concentration at which it is effective there. Apnea follows until this respiratory "hormone" has again accumulated in sufficient amount to call for better elimination. Incidentally it has been noted that this apneic response does not occur in some persons.

Recently Boothby[2] has studied an individual presenting the apparently anomalous phenomenon, not merely of the absence of apnea, but even of a natural hyperpnea succeeding forced breathing. How are these instances to be explained on the current hypothesis which assigns so much prominence to the carbon dioxid content of the circulation? Shall we assume that the respiratory functions are maintained through the activity of some other stimulus here, or is the effective carbon dioxid content of the blood conserved in an unexplained manner? Boothby believes that there is the usual loss of carbon dioxid in the forced breathing of these unique subjects, and that despite the absence of apnea it is made up again within a few minutes, though not so rapidly as when apnea occurs. He ventures the hypothesis that the absence of apnea after forced breathing is probably due to a compensating diminution of the circulation through the respiratory center, in consequence of which the gas tensions in the center are still capable of exciting it. More specifically, as soon as there is an appreciable decrease in the carbon dioxid pressure in the arterial blood the arterioles and capillaries respond by contracting in an attempt to diminish the volume of blood passing through areas under their control. Furthermore, in the absence of better information regarding the mechanism by which the venous supply of the heart is regulated, it might be supposed that this is dependent in part on the carbon dioxid content of the venous blood. In that case, as Boothby suggests, forced breathing might bring about a marked diminution in the output of the heart. Accordingly it would follow that in the anomalous cases referred to above a decreased circulation in the central nervous system in general and in the respiratory center in particular maintains the carbon dioxid tension at near its normal level despite the forced breathing. The retarded circulation would further bring about a condition of oxygen want with the consequent production of products of deficient oxygenation such as lactic acid. These acid derivatives, in conjunction with the carbon dioxid, could keep the respiratory center excited; and thus the phenomena of hyperpnea after forced breathing without apnea could be understood. The most interesting feature in these newer observations is the suggestion that the circulatory system may cooperate in some cases in an unexpected degree and manner to maintain a function of the respiratory center. The assumed influence of the carbon dioxid on the blood-vessels themselves will, however, bear further investigation.

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[1] Compare Carbon Dioxid and the Circulation, THE JOURNAL A. M. A., Feb. 8, 1913, p. 45.

[2] Boothby, W. M.: Absence of Apnea After Forced Breathing, Jour. Physiol., 1912, xlv, 328.

THE IODIN CONTENT OF THE THYROID GLAND

During the past decade there has been an earnest and laudable effort among those interested in the use of drugs to secure some efficient standardization of the products which enter into common use in medicine. When possible and feasible, crude preparations have been replaced by isolated "principles," particularly in the application of the naturally occurring products that yield alkaloids. In other cases, as in the dispensing of digitalis extracts, for example, much time has been devoted to the testing and introduction of suitable methods of measuring the potency of the marketed materials so as to furnish a reliable tincture or fluidextract, the therapeutic effect of which might in some reasonable degree be anticipated and relied on. The standardization of the animal-organ extracts which have come so widely into use is equally desirable, but the more difficult of accomplishment because the active substances (with the exception of the adrenal constituent) are scarcely known; and a precise pharmacologic response of the organism to their administration is equally difficult to recognize. Hence it is that in many cases the clinician has been compelled to content himself with prescribing certain portions of the gland used, remaining in ignorance as to the real dosage involved except in so far as palpable results manifested themselves in the case of individual products. Constancy of composition and physiologic effect could scarcely be expected; and the manufacturer has been quite as helpless as the physician in the attempt to secure that uniformity of quantity and quality which insures dependable medication.

Some hope of fixing a standard for the use of thyroid in medicine has been warranted by the apparent correlation of the iodin content of the thyroid gland with that constituent which is assumed to bring about the reactions for which the product is employed. Tentatively a proposed iodin content of 0.2 per cent. has been adopted. If the numerous published analyses of the thyroid are reviewed, one is impressed with the wide variations in relation to species, locality and other factors which are likely to come into play. Obviously the first desiderata are sufficiently extensive and reliable statistics in regard to the actual facts respecting iodin and the thyroids. It has been the aim of the Hygienic Laboratory of the Public Health Service, working in conjunction with some of our American manufacturers in that cooperative spirit which makes for real progress, to supply the missing data.[1] Material was prepared from thyroid glands obtained from animals shipped to the Union Stock Yards in Chicago from practically all parts of the United States except the Eastern and Southeastern states. In this way it was hoped to eliminate local influences to a large extent. That these may easily come into play will be apparent when the regional occurrence of goiter in animals as well as man is brought to mind.

The investigation of Seidell and Fenger thus undertaken particularly to ascertain the extent of the variation in the iodin content of composite samples of animals used as food by man—products accordingly available on a suitable commercial basis—led to an unexpected finding. It was shown that a marked seasonal variation exists in the percentage of iodin present in the healthy normal-sized thyroid glands of the sheep, beef and hog. There is in general about three times as much iodin present in the glands in the months between June and November as in the months between December and May. A seasonal variation in the size of the fresh glands was observed in the case of the sheep and beef, but not with the hog. The glands were found to be larger during the months in which the lower iodin content was observed.

A particularly important outcome of this study was the demonstration that a continued restriction of the source of pharmacopeial thyroid to the glands of sheep would make practically impossible the production in the

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[1] Seidell, A., and Fenger, F.: Seasonal Variation in the Iodin Value of the Thyroid Gland, Jour. Biol. Chem., 1913, xiii, 517.

United States of a drug of 0.2 per cent iodin content for all but a short period of the year. It is now evident that the maintenance of a standard of this sort will require the use of glands other than those of the sheep, and in addition, the mixing of the product obtained at the high and low seasons of the year.

THE RATTLESNAKE-VENOM TREATMENT OF EPILEPSY

The fashion of using biologic products of extreme toxic potency is on us. It seems unnecessary to have these products accurately standardized, or to have their employment in human beings preceded by careful animal experimentation in which both the immediate and remote effects of such toxication can be determined. So long as a profound "reaction" is produced the end in view seems to have been attained, for by that reaction, if one may credit the enthusiastic reports of the advocates of these new and heroic therapeutic adventures, beneficial results in diseases otherwise practically incurable, epilepsy for instance, seem attainable. Curiously, however, these new fields for the employment of biologic toxins seem to require preliminary exploitation through the agency of the public press; and with the growing tendency of lay publications to magnify the sensational at the expense of the scientifically exact in alleged discoveries in medicine, there is little wonder that a treatment like the injection of rattlesnake-venom for epilepsy should have excited a lively and exaggerated interest.

An epileptic in Texas was bitten by a rattlesnake; he escaped the secondary infection which so often complicates and adds to the fatality of bites by poisonous snakes and his epileptic attacks ceased. A Philadelphia physician, Dr. Ralph H. Spangler, learning of this fortunate result, and having had some experience in using crotalin in the treatment of pulmonary tuberculosis, attempted to reproduce the favorable issue of the epileptic's accident. That any measure of success sufficient to justify the adoption of crotalin treatment for epilepsy has accrued to Spangler's efforts is not to be concluded from his published reports in medical periodicals, or from the reports of trustworthy and competent professional observers. On the other hand, there are a number of good and sufficient reasons why cautious physicians who respect the well-being of their patients and who desire a comfortable peace of mind should shun the administration of this treatment and advise against it.

Every well-informed epileptologist knows that a sudden shock or reaction may favorably, though as a rule but temporarily, influence the course of epileptic seizures. A maiming accident or surgical operation not uncommonly induces a break in the sequence of epileptic fits; still no one since the dark ages has advocated traumatism as a cure for "falling-fits." Likewise, intercurrent diseases like severe acute infections are often followed by an attack-free period; but it still remains for some venturesome therapist to produce such infection by design as a treatment for epilepsy. The rattlesnake-bite of the Texas youth and the artificial bites by Spangler's method belong in this category of accidental and temporary suppression of epileptic fits by the agency of severe reactions. But the artificial instillation of the venom, unlike the natural bite, is advocated as a procedure to be repeated.

The reaction which follows an injected dose of crotalus venom, both the severe local irritation and the marked constitutional disturbance, is far from pleasant, even at a time when "reactions" are belittled to physicians; and to carry out the treatment by the Spangler method a continuous series of such reactions with increasing doses of poison must be instituted. Ignoring the danger of anaphylaxis, which certainly is possible, and of infection by contaminating bacteria residing in the crudely obtained dried venom or appearing in its solution, there is the undisputed fact of hemolysis to be gravely considered — for "all snake-poisons have a hemolytic power." The plight of the average epileptic is too commonly hopeless; still it seems scarcely humane to add to his already heavy burden a state of chronic intoxication by a potent, deadly agent with insidious, blood-destroying power, and a well-known proclivity to prepare the way for pyogenic infections.

If further advice were needed on this head, it would be to leave the crotalin treatment of epilepsy in the hands of its adventurous author for administration to those unfortunate victims of epilepsy whose desperation has led them, knowingly, to assume a great risk, with a very small promise of benefit.

Current Comment

PROGRAM OF SOCIAL SERVICE ADOPTED BY THE CHURCHES

The church has been criticized for sticking too closely to dogmatic instruction in religion and not making practical application of its teachings to the every-day social and material things of life for the betterment of those whom it attempts to reach. Realizing that modern conditions make it incumbent on the church to take greater interest in such matters, the leaders of the Protestant churches of America, after previous ineffectual attempts in this direction, in 1905 convened a national church conference, having for its purpose the formation of some plan by which the evangelical churches might unite to meet this modern demand. This conference perfected an organization, the Federal Council of the Churches of Christ in America, with committees covering different branches of social service, and after considerable study and some practical experience along the lines mapped out, the council has adopted, as the program for future work, the report of the Commission on the Church and Social Service, on which it has agreed that the churches must stand. T[illegible]ogram, in addition to some general [illegible]ement[illegible]rd to and complete[illegible] all,

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of morals, uniform divorce laws, proper regulation of marriage and proper housing; the abolition of child labor; regulation of the conditions of toil for women so as to safeguard the physical and moral health of the community; the protection of the individual and society from the social, economic and moral waste of the liquor traffic; the conservation of health; protection from dangerous machinery, occupational diseases and enforced employment; suitable provision for the old age of workers and for those incapacitated by injuries; arbitration in industrial disputes; one day of rest in seven for the worker; gradual and reasonable reduction of the hours of labor; a living wage as a minimum in every industry, and the highest wage that each industry can afford; the application of Christian principles to the acquisition and use of property, and the equitable division of the product of industry. This seems a sensible and not impracticable program, and with proper and practical leadership nothing could be better adapted than the established organization of the church, reaching, as it does, every community and every class, to assist in bringing about within a reasonable time, at least some portion of these eminently desirable reforms.

SPIROCHAETA PALLIDA IN THE BRAIN IN GENERAL PARALYSIS

Noguchi and Moore[1] examined the brains in seventy cases of typical general paralysis, and in twelve they succeeded in demonstrating *Spirochaeta pallida* in all the layers of the cortex save the outermost one. Both macroscopically and microscopically the anatomic changes corresponded wholly to those regarded as characteristic of this disease, so that there is no good ground for the possible assertion that they were dealing with frank instances of cerebral syphilis in the narrower sense rather than genuine general paralysis. This demonstration consequently must tend strongly to support the view that general paralysis is the result of the direct action of the parasite of syphilis in the brain; that cerebral syphilis and general paralysis in reality are, as asserted by Dunlap and others, part and parcel of the same process; or, to put it in a still different way, that general paralysis is nothing more or less than a peculiar form of tertiary syphilis. Now that the ground, so to speak, has been broken, it seems highly probable that in time we shall learn much more about the relationship of the spirochete to the brain in general paralysis. Further work will lead perhaps to improved technic, for it is acknowledged that the spirochete cannot be demonstrated infallibly with the present methods. If, indeed, it should be found that general paralysis is the direct result of syphilitic infection of the brain, thus bringing the disease into much closer connection with its cause than expressed in Kraepelin's conclusion that "syphilitic infection is an essential for the later appearance of general paralysis," the prospects of finding some way of curing actual paralysis would become more hopeful.

PRODUCTION OF IMMUNITY TO TUBERCULOSIS WITH BRANCHED FORMS OF TUBERCLE BACILLI

Under certain circumstances the bacillus of tuberculosis grows into peculiar branched forms that resemble certain fungi. According to Dixon[1] such forms develop quite regularly when the tubercle bacillus grows at higher temperature than usually employed for the artificial cultivation of microorganisms, the most suitable temperature for this purpose being between 52 and 56 C. Under these circumstances the power ordinarily possessed by the tubercle germ of resisting decolorization by acid solutions may be lost, the germs becoming non-acid-fast. This last change is ascribed to loss of the waxy envelope on which the character of being acid-fast is believed to depend. Dixon finds that experiments on guinea-pigs show that the branching, non-acid-fast forms are less virulent than the original cultures from which they are produced and furthermore that they induce "the development of marked resistance to lethal doses of virulent tubercle bacilli." He gives no details of experiments bearing directly on this last point, however, and we must remain content with his statement to that general effect for the present. On the basis of these considerations and experiments Dixon has developed tuberculins for practical therapeutic purposes consisting on the one hand of watery extracts of tubercle bacilli and on the other of suspensions of "degreased bacilli," the theory being that in this way are obtained antigens of little toxicity but good antigenic virtue. The quintessence of Dixon's report is therefore the emphasis placed on the immunizing value of the wax-free tubercle proteins and the non-acid-fast branching forms of the tubercle bacillus. The details of the actual underlying experiments are awaited with interest. Reports of the therapeutic results are already at hand,[2] and the hope may be expressed that the further tests may have such outcome as to leave no doubt as to the real merits of the treatment.

PUBLIC OPINION AND MEDICAL EDUCATION

The statements in newspapers after the recent conferences on medical education held in Chicago show that public opinion is not only growing more favorable toward improvement in medical education, but is even beginning to demand such improvement. Referring to the recent action of the Association of American Medical Colleges in adopting higher entrance requirements for medical schools, the Wilmington (Del.) *News* says:

> It would be hard to reach too high a standard in medical training and education. There is no more important vocation that that of the physician, but the importance of the profession as it affects the general public has not been appreciated in the proper manner. A few years ago no large city was without its mushroom medical colleges, commercialized institutions that were conducted for the purpose of money-making, grinding out diplomas given to men utterly unfit to deal with matters of life and death. . . . A smaller number of institutions with better equipment for the study of medicine and surgery would be far better than an unlimited number of indifferent institutions.

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[1] Noguchi, Hideyo, and Moore, J. W.: A Demonstration of Treponema Pallidum in the Brain in Cases of General Paralysis, Jour. Exper. Med., 1913, xvii, 232; abstr., The Journal A. M. A., Feb. 22, 1913, p. 627.

[1] Page 993, this issue.

[2] Francine, A. P., and Hartz, H. J.: Results with Tuberculin (Dixon's) in Advanced Chronic Ambulatory Tuberculosis, The Journal A. M. A., March 8, 1913, p. 717.

And this from the Joliet (Ill.) *Herald:*

> *With the ever-increasing number of physicians thrown out of* the medical schools of the country each year, many of them with inadequate preparation—although sufficient, it will be admitted, to pass the necessary examinations to practice—the raising of the standard will be welcomed by all thinking men.

There are still some who fail to discriminate between the "poor boy" who is poor in purse and the one who is poor in scholarship. This is apparently the case with the Albany (N. Y.) *Argus,* which says:

> The extra year seems unnecessary. . . . While it is highly desirable that the standard of the profession be raised to as high a plane as possible, requirements for entering it should not be unreasonable. For a poor young man to devote five years to study in a college before he can practice is a hardship few will undertake. It means five years of privation and hard work in addition to his studies. We do not want any of the professions closed to poor boys.

Not so the Elmira (N. Y.) *Star* which, after reproducing the statement just quoted, adds:

> The *Argus* is right so far as the "poor boy" is concerned—but there are the "poor people" to be considered, too. The medical profession deals in life and death. On the judgment and ability of the physician, and the skill and deftness and accuracy of the surgeon depend the number of days we may enjoy life on earth. If there is one profession more than another that should be most severe in its requirements it is the profession of medicine. Hitherto there has been too much laxity in the demands for efficiency and proficiency. The tendency now is the other way, and it is good for humanity.

The campaign for better medical schools and better doctors carried on in recent years by the American Medical Association, the Carnegie Foundation for the Advancement of Teaching, the Association of American Medical Colleges and other organizations has already done much to create a public interest in these matters. After all, it is the people themselves who should be chiefly interested in the character of the training and the qualifications of those who are to care for them when sick or injured.

PUBLIC ENLIGHTENMENT THROUGH ADVERSE CRITICISM

Adverse criticism sometimes draws public attention to the truth regarding important affairs, where otherwise no attention would be paid to the facts. The following is an instance: After commenting on some resolutions adopted by the medical faculty of Drake University, when it was decided to merge that school with the College of Medicine of the State University of Iowa, and after giving a short history of that medical school, the *Journal of the Iowa State Medical Society* proceeds to pay its compliments in the following language to a certain critic of practically all progressive medical measures:

> We regret to say that there was published in the Des Moines *Capital* a contribution from the distinguished Bremer County statesman, one Miller, who says that Drake University Medical School came to its untimely death at the hands of the great medical trust, the American Medical Association. Mr. Miller finds it difficult to understand how an institution without legal authority can exercise such a powerful influence as to destroy weak medical colleges and all other things medical that come in its way. This is a proposition of course Mr. Miller cannot fully understand for the reason that the American Medical Association represents the highest ideals of the American people. The American Medical Association has endeavored to stand for the very best, and to crush out all of those monsters that prey on public ignorance, and this is why the American Medical Association has come to have its great influence. The resolutions passed by the Drake University Medical School do not set forth the claim that the American Medical Association, in order to clear the medical atmosphere, crushed out the institution, but rather say that "their efforts to secure the necessary funds for the endowment and public support of the medical school in accordance with the highest standards, have been unsuccessful." It must be discouraging to a statesman like Mr. Miller to see right prevail over wrong, and to see medical progress go on from year to year, from month to month, and from day to day, and yet be unable to stop it.

In the preceding statement, therefore, additional facts are brought to the attention of the medical profession and the public, which would not have been the case had there not been an effort to belittle the work of the organization representing the medical profession of this country. Fortunately also such efforts usually result in calling the attention of the public to the character and work of those making such criticisms. The American Medical Association has nothing to conceal, and invites the widest publicity of its motives and its work.

THE AMERICAN STANDARD FOR ENTRANCE TO MEDICAL COLLEGES

In the Medical Education department of this issue is given a detailed outline showing the minimum preliminary education which should be required for admission by every medical college. Also it is the minimum that should be required by every state licensing board of those who are to practice the healing art by whatever method or system. This minimum represents, in addition to a standard four-year high-school education, a year of college work including at least eight semester hours each of physics, chemistry, biology and German or French. It is understood that the college year may be taken either in an accredited college of liberal arts or in a preliminary year given under satisfactory conditions by the medical college itself. This standard has long been the minimum requirement in practically all other civilized nations, and is the standard which has been advocated by the American Medical Association through its Council on Medical Education since 1904. It has just been adopted at a joint meeting of committees representing the Association of American Medical Colleges and the Council on Medical Education, acting with the advice of Dr. Kendric C. Babcock, higher education expert of the United States Bureau of Education. The general adoption of this standard throughout the country will mark another distinct epoch in the progress of medical education in the United States.

STORM HAVOC AND THE DANGER OF EPIDEMICS

The devastation and death lately caused by tornado and flood seem almost unprecedented in this country. The situation has call [illegible] ous action [illegible] part of governme [illegible] d in- including the grea [illegible] material and med [illegible] citizens such relief has not been wanting. The destructive wind and rain storms extending from Western Canada to Georgia were followed by the series of tornadoes at Omaha and the middle west, and the terrific hurricanes and rains with resulting tremendous floods in Indiana and Ohio. Ere we received full details of one fierce storm, news of a greater one crowded it from notice. The reported loss of St. Elizabeth Hospital at Dayton, with several hundred patients and attendants, would be a most deplorable event. At the time of THE JOURNAL'S going to press, the report could be neither verified nor disproved. The immediate havoc wrought to life and property is only a part of the results of the storm, for following in its wake stalk sickness and death from exposure, the unavoidable lack, for a time, of food, medicines and care, and the disruption of sanitary conditions, with polluted water. The experience gained, however, by health authorities, the Red Cross and other relief organizations in previous calamities of this sort, will enable them soon to bring order out of chaos, and with the cooperation on the part of all persons, the situation will be quickly cleared up. Naturally we may look for pneumonias and other congestive diseases. Little can be done to avoid these, but epidemics of infectious diseases can be successfully guarded against. Where sewerage and water systems have been affected, the slogan for several weeks must be *boil the water and pasteurize the milk*. With the breaking of dams and sewers and the flooding of water-supplies whether of wells or reservoirs, the water is bound to be polluted, and typhoid fever is almost certain to become widespread unless the simple precaution of purifying the water by boiling is immediately adopted. This should be continued in every household for weeks and perhaps months until danger from this source is past. The wide extent of the storm and flood area makes the task of relief a tremendous one, but the quick response of the American people in such calamities renders it certain that relief will be afforded and suffering prevented to the greatest possible extent. The responsibility of the members of our profession at this time is great and of course will not be shirked. It is a time when we cannot wait to be called on; it is an occasion for voluntary active work.

Medical News

ILLINOIS

Hospital for Mendota.—Plans are being made for the remodeling of the Mendota College building so as to adapt it for use as a hospital.

Fire at State Hospital.—A fire at the Bartonville State Hospital, early March 16, did considerable damage to cottage C 5. The 150 female inmates of the building were removed without casualty.

Personal.—Dr. A. E. Kidd has been reelected president of the Quincy Civic Improvement League.—The *Herald-Transcript*, in its issue of March 14, pays tribute to the services given to the Peoria Association of Commerce during the past year by its president, Dr. Clifford U. Collins.——Dr. J. A. Wheeler, Auburn, state game commissioner, was presented with a diamond pin by the deputy state game wardens, March 12.

Ill and Injured.—Dr. J. W. Rendleman, East St. Louis, fell March 10, fracturing both forearms at the wrist.——Dr. Cabeen, Galesburg, who was operated on for appendicitis, has recovered and returned home.——Dr. Frank Worden, Alton, who has been ill for eight weeks with rheumatism, is reported to be improving.——Dr. W. H. Schwingel, Aurora, fractured his right forearm while cranking his automobile, March 14.

Examinations for Cook County Hospital Staff.—The Cook County Civil Service Commission will hold examinations for attending and associate physicians for the following departments of the Cook County Hospital at 547 County Court House, at 7 p. m., on the following dates:

Medicine, 18 positions, April 3.
Nervous and Mental Diseases, 4 positions, April 4.
Contagious Diseases, 6 positions, April 5.
Children's Diseases, 6 positions, April 7.
Tuberculosis, 8 positions, April 8.
Surgery, 18 positions, April 10.
Skin and Venereal Diseases, 4 positions, April 11.
Obstetrics, 4 positions, April 12.
Gynecology, 4 positions, April 14.
Ear, Nose and Throat Diseases, 4 positions, April 15.
Eye Diseases, 4 positions, April 16.
Orthopedics, 4 positions, April 17.
Pathology, 4 positions, April 17.

Those desiring to take any of these examinations must make their applications on blank forms which will be sent by the commission on request, and file them with the commission not later than 12 m. of the day next preceding the date for which the examination is called. The appointments are for six years. The hospital treated last year over 34,000 patients. The patients will be grouped in the departments into services of about fifty beds each in permanent locations. One attending and one associate physician are assigned to a service. As soon as possible promotional examinations will be held for a chief in each department who will be responsible for the general organization and control of his department. The attending physicians are required to attend at the hospital three days each week at least two hours each day, while the associate physicians must attend at least two hours each day five days every week. Both attend continuously with an allowance of three months' vacation each year. The scope of the examination will be, special subject 6, experience 4. In the marking of experience, the nature of the position makes academic and medical school education, service as an intern, in general practice or in practice of a specialty, graduate work, hospital and dispensary work, original research work, important contributions to medical literature and teaching advantageous to the applicant.

Chicago

Southside Physicians' Club.—The Southside Physicians' Club has recently been formed for purely social purposes. Meetings are to be held monthly for the promotion of goodfellowship. Dr. William Cuthbertson is president and Dr. Frederick G. Dyas, secretary.

Tuberculosis Exhibit.—A tuberculosis exhibit was opened, March 25, at 19 West Jackson Boulevard, under the auspices of the Chicago Tuberculosis Institute. The exhibition is to be open for two weeks and on each day two or three lectures will be given on various phases of the general subject of tuberculosis. The public is invited to attend.

Free Public Lectures.—A series of free public lectures are being given under the auspices of the Southside Branch of the Chicago Medical Society on Friday evenings at Abraham Lincoln Center. The dates, subjects and speakers are as follows: March 21, "Nervousness," Dr. Charles L. Mix; March 28, "Some Medical Phases of the Vice Problem," Dr. Willis O. Nance; April 4, "Preventive Medicine," Dr. E. B. Tuteur; April 18, "The Housing Problem," Dr. A. B. Yudelson, and April 25, "Woman's Place in Public Health Movement," Dr. G. W. Webster.

Personal.—Dr. Frank Billings, First Lieutenant, M. R. C., U. S. Army, was placed on the active list on account of an emergency and was detailed as special professor to the Army Medical School, Washington. Dr. Billings went to Washington, March 15, and delivered a series of lectures before the students of the Army Medical School.——Dr. Edward B. Fetherston, who has been ill with pneumonia at the German-American Hospital since February 19, is reported to be securely convalescent.——Dr. and Mrs. J. A. Robison have sailed for the Mediterranean.——Dr. J. Allan Hornsby, superintendent of Michael Reese Hospital, has resigned.

INDIANA

New Powers for State Board.—The attorney general has rendered a formal opinion to the State Board of Health which gives it power to regulate and prescribe the character and location of plumbing, drainage, water-supply, disposal of sewage, lighting, health and ventilation of practically all the school buildings in the state.

Tuberculosis Camp to Open.—Arrangements for the opening of the Twin Hills Tuberculosis Camp are well under way. It is expected that the camp will be opened on or before April 1. Drs. F. W. Shaley, Loucks and John H. Hewitt, Terre Haute, have been appointed a committee to confer with the commissioners of Vigo County in regard to an appropriation for the maintenance of the camp.

Personal.—Dr. J. N. Hurty, state health commissioner, has been appointed a member of the National Commission on Milk Standards and has also been asked to draft a model health bill for the state of Iowa.——Dr. James A. Milligan, deputy warden of the state prison, Michigan City, has been appointed physician to the Indiana Hospital for Insane Criminals in connection with the prison. Dr. Paul Bowers continues in his present capacity as prison physician.——Dr. Robert Harris, South Bend, celebrated his ninetieth birthday anniversary, March 14.

MARYLAND

Nurses' Home for Hospital.—A building in Elkton was purchased by the managers of the Union Hospital, March 13. The building will be used as a home for the nurses connected with the hospital.

Small-Pox Hospital Closes.—Dr. Thomas L. Richardson in charge of the Quarantine Hospital, Hawkins' Point, announced that he expects to close the hospital this week unless other small-pox cases or suspects are found.

Baltimore

Laboratory Installed.—An experimental pathologic and bacteriologic laboratory and a new *x*-ray department have been installed at the Church Home and Infirmary.

Personal.—Drs. Page Edmunds, Hugh H. Young and Eric Bergland have sailed for Bermuda.——Dr Walter F. Wickes has returned after several months in Florida.

New Paintings for Medical Hall of Fame.—The Medical and Chirurgical Faculty of Maryland was presented with a portrait of Dr. John Fonerden, superintendent of the Maryland Hospital for the Insane from 1846 to 1869, first librarian of the faculty, and medical adviser of Johns Hopkins, by the board of managers of Spring Grove State Hospital, at a joint session of the Maryland Psychiatric Society and the Book and Journal Club, March 18. In his presentation speech, Dr. Arthur P. Herring, secretary of the State Lunacy Commission, gave a history of the career and activities of Dr. Fonerden.——A portrait of Dr. L. McLane Tiffany is to be hung in the building of the Medical and Chirurgical Faculty of Maryland. Dr. George Walker is secretary of the committee in charge.

College Consolidation Ratified.—On March 19 the board of regents of the University of Maryland ratified the agreement whereby the University may absorb the Baltimore Medical College. It has been agreed also to take into the faculty of the enlarged medical school the following members of the faculty of the Baltimore Medical College: Dr. Charles G. Hill, professor of nervous and mental diseases; Dr. A. C. Pole, professor of descriptive anatomy; Dr. David Streett, professor of the practice of medicine; Dr. J. D. Blake, professor of clinical surgery; Dr. S. K. Merrick, professor of diseases of the nose and throat; Dr. J. Frank Crouch, professor of clinical ophthalmology and otology; Dr. J. M. H. Rowland, professor of clinical obstetrics; Dr. Charles O'Donovan, professor of clinical pediatrics and clinical medicine; Dr. G. Milton Linthicum, professor of proctology; Dr. R. B. Warfield, professor of practice and surgery; Dr. W. B. Perry, professor of clinical gynecology; Dr. Tilghman B. Marden, professor of histology and embryology.

MASSACHUSETTS

Fire at State Sanatorium.—On March 18, a fire was discovered in the boiler and power house in the State Sanatorium for Consumptives, Rutland. By prompt action the damage was confined to the lower floor and the main buildings were at no time endangered.

Personal.—Dr. L. Vernon Briggs, Boston, has been appointed a member of the State Board of Insanity.——Dr. G. A. Demopoulos, Lowell, has returned after two months' service in the Greeco-Turkish war in which he was wounded and incapacitated for service.——Dr. Charles F. Lynch, Springfield, has been elected a member of the surgical staff of Mercy Hospital.

Hospital News.—A meeting was held in Palmer, March 10, to further the erection of a hospital in that city.——A majority of the board of trustees was elected as a committee to proceed with the incorporation of the Wing Memorial Hospital.——At a meeting in Faneuil Hall, Boston, under the auspices of the Beth Israel and Bicker Cholem Hospital Association, pledges exceeding $30,000 were made for a fund for a Jewish hospital. The committee in charge is considering several sites for the proposed institution.

NEW YORK

Aschoff in Buffalo.—Dr. Ludwig Aschoff, professor of pathology in the University of Freiburg, Germany, delivered an address in Buffalo, March 16, under the auspices of the Buffalo Academy of Medicine on "Thrombosis."

Sanatorium Purchased.—The Hempstead (L. I.) Sanatorium has been purchased by the French Visiting Sisters whose home is in Brooklyn, for about $18,500. The sanatorium will be used as a hospital and home for the order.

Personal.—Dr. James S. Walton has been reappointed health officer of Amsterdam.——Dr. Josiah Hasbrouck, Sleightsburg, is ill in New York City with an infection of the hand.——Dr. J. C. Otis, Poughkeepsie, who has been ill for several weeks, is convalescent.

State Hospital Damaged.—The heavy storm of March 21 cut a swath 20 feet wide through the grounds of the Utica State Hospital, broke 500 windows, tore the tin roofs off of several of the buildings and threw the 1,500 patients into a panic. No lives were lost.

Investigate Rural Sickness.—The State Charities Aid Association, in pursuance of its policy looking to the improvement of methods of caring for the sick in rural communities, is making an investigation of conditions in Dutchess County. They have found thus far that the greatest need is hospital or institutional care and that another pressing need is that of housekeepers for families where the wife or daughter is the one incapacitated. The community investigated was a farming population and this will be followed up by injury into conditions in certain wards of Poughkeepsie engaged in manufacturing. The Poughkeepsie Academy of Medicine has cooperated with the association and the investigation will be continued through the summer. It is believed that the results of the inquiry aim at the establishment of a municipal hospital in Poughkeepsie and of higher standards of sanitary precautions in the country and the smaller cities.

New York City

Personal.—Dr. Allen McLane Hamilton is reported to be seriously ill in the Presbyterian Hospital.——Dr. A. T. Bristow is reported to be seriously ill at his home in Brooklyn with septicemia, due to an operation wound.

Dental Clinics Opened.—The Department of Health has opened six dental clinics for school children. They were made possible by the 1913 budget. In a statement made by the department it is claimed that 420,000 of the 700,000 school children in the city are in urgent need of dental treatment.

New Hospital Buildings.—Mount Sinai Hospital has received a donation of $125,000 from Samuel and Harry Sachs for the support of free beds in the neurologic department, in memory of Joseph and Sophia Sachs. A new ward has been opened for children suffering from nervous diseases and the men's and women's wards of the neurologic division have been enlarged. One of the new buildings which the hospital is about to erect will be designed with special reference to the requirements of a thoroughly-equipped neurologic institute.——Contracts aggregating more than $1,000,000 have been signed for the erection of a convalescent home at White Plains provided for by the Winifred Masterson Burke Relief Fund. The property owned by the foundation consists of $2,000,000 in real estate and $3,000,000 in personal property; the income of what remains after the buildings are erected is to be used for maintenance. The home will occupy a site of 60 acres at White Plains which has been purchased from the Bloomingdale Asylum for $180,000. The plan calls for eight buildings to which additions will be made as needs grow. There will be accommodations for 300 persons. Dr. Frederick Brush has been chosen superintendent of the institution.——The Sydenham Hospital will erect a new six-story modern hospital building on the present site. The new structure has been made possible by the gift of $100,000 from Mr. Isaac Guggenheim. When completed the new hospital will cost $350,000 and will contain 200 beds.

OHIO

Governor Entertains Physicians.—Governor Cox entertained the medical me[illegible]rs of th[illegible]gislature at d[illegible] at his residence, Ma[illegible]lical [illegible]tion [illegible]rs were informally

Personal.—Dr. and Mrs. George Gill, Elyria, sailed for Europe, March 22.——Dr. A. J. Weston, Cleveland, was beaten and robbed in his office, March 17.——Dr. J. W. Costello, superintendent of the District Tuberculosis Hospital near Lima, has resigned.

Clinical Congress.—The Ohio State Clinical Congress met in Cleveland, March 17-18, and clinics were held mornings and evenings at the various hospitals of the city by local men. Dr. William H. Humiston is chairman and Dr. J. M. Ingersol, secretary of the local committee.

Hospital News.—On March 4,, $13,000 was turned over to Miami and St. Elizabeth's hospitals, Dayton, by the city auditor. St. Elizabeth's Hospital is the one reported (as The Journal goes to press) as having been carried away with 600 inmates in the flood devastating Dayton.——The Ohio Hospital for Epileptics, Gallipolis, is reported to be overcrowded. The capacity of the institution is 1,200 and in March there were 284 more than the capacity of the buildings in addition to a large waiting list. The management asked the legislature for an appropriation of $210,000 for the erection of additional buildings.——The medical staff of the Lucas County Hospital has asked the county commissioners to appropriate $100,000 for the erection of a new infirmary and hospital to accommodate 150 patients and to be erected on a site adjoining the County Infirmary.

Cincinnati

Personal.—Dr. Samuel Iglauer, junior otolaryngologist to the Cincinnati Hospital, has been promoted to the senior staff, vice Dr. Samuel E. Allen, resigned.——Dr. G. L. Krieger has been appointed a member of the Cincinnati School Board.

Want Woman Physician at Longview.—At the last meeting of the Cincinnati Woman's Medical Society, resolutions were adopted deploring the fact that there is no resident woman physician at Longview Hospital and recommending that the society take steps to have a woman physician appointed on the medical staff. Drs. Ruth G. Bernheim, Bertha C. Lietze and Ella G. Hunt were appointed a committee to take up the matter with the authorities and report at the next meeting.

PENNSYLVANIA

Sanatorium Nearly Ready.—The new sanatorium near Warren, erected at a cost of $20,000, is nearing completion. The institution will accommodate thirty patients.

Portrait Presented to Society.—At the meeting of the Franklin County Medical Society, March 18, at Chambersburg, J. E. Whitmore, Greencastle, presented the society with a portrait of the late Dr. William Grubb, one of the best known practitioners of Franklin County, who died in 1885.

Correction Concerning Dr. Hawkins.—Through an error The Journal announced, February 22, that Dr. John A. Hawkins, Pittsburgh, had been operated on for cataract. The item was quoted from a newspaper. Dr. John A. Hawkins, Fawn Grove, was the one on whom the operation was performed. The first intimation of this error has reached The Journal only in time for this issue.

Personal.—Dr. Clinton Rutter, Northumberland, who was operated on recently at the Medico-Chirurgical Hospital, Philadelphia, has returned home convalescent.——Dr. J. S. Carpenter, Pottsville, was injured, March 17, by the overturning of his automobile.——Dr. Alice Roger Easby and husband, Media, have started for Europe.——Dr. Mary B. Kingsbury, Pottsville, has been tendered the position of bacteriologist in the Swedish Hospital, Minneapolis.——Dr. William F. Marks, a member of the Reading Board of Health for thirty-three years, has resigned.

Four Reports From Commission.—The irreconcilable divergence of opinion in the Pennsylvania State Vaccination Commission led to the preparation of four reports which will be submitted to the general assembly. Among the drastic recommendations of the minority reports are the abolition of all vaccination laws, the prohibition of quarantine of persons refusing to be vaccinated, and legal redress from injuries resulting from vaccination. During the two years since the commission was appointed, fifty-eight witnesses appeared before it, of whom thirty were physicians and of these only four were opposed to vaccination. The majority report, signed by the chairman, Emil Rosenberger, Philadelphia; Drs. William M. Welch and Jay F. Schamberg, Philadelphia, and Edward A. Woods, Pittsburgh, favors the continuance of the prevailing regulations

Philadelphia

Babies' Clinic to Have Social Service Nurse.—So successful have been the Friday afternoon baby clinics at the Children's Homeopathic Hospital that a social service nurse is to be installed, whose duties will be to talk to mothers giving advise how to carry out instructions; to follow up each baby brought to the clinic and to have very ill babies sent to the hospital

Lectures.—Jefferson Medical College announces that the Samuel D. Gross lecture for the 1912-13 session will be delivered by Dr. William L. Rodman in the clinical amphitheater of the Jefferson Hospital, March 28, at 8:15 p. m. Prof. H. P. Armsby of the Pennsylvania State College, Institute of Animal Nutrition, will deliver the next Weir Mitchell lecture in Mitchell Hall, the College of Physicians, at 8:30 p. m., April 4, on "Animal Calorimeters and the Study of Nutrition."

Recommendations of Mental Hygiene Conference.—At the close of the Conference on Mental Hygiene, March 22, a legislative dinner was given at which resolutions were passed advocating the passage of the Ambler bill which provides for the creation of a state home for feeble-minded women; the creation of a department of research by the state for investigation into the cause and prevention of insanity and feeble-mindedness; the establishment of "after-care" departments in each of the state hospitals for the insane as places for clinical treatment of the feeble-minded and the creation of a new state hospital for the insane in the southeastern district of Pennsylvania to relieve the overcrowded insane wards at the Philadelphia General Hospital.

Measles Spread Caused by Immigrants.—The records of the Health Department for the week ended March 22 show 1,182 new cases of measles, an increase of 38 over the number reported during the previous week. This epidemic is said to be due to the fact that there is not sufficient room at the local quarantine stations to care for cases which arrive on vessels. During an inspection of Marcus Hook Quarantine Station by members of the Committee on Appropriations of the State House of Representatives, this condition was pointed out by Dr. W. M. L. Coplin, a member of the State Quarantine Board. There are only a few frame buildings at the station, which was formerly a summer residence. The house is used for operating a dispensary and executive offices, the stable, for a disinfecting plant and a rude frame building constructed many years ago, serves as the hospital proper, but has beds for only twenty-four persons. Last year the station inspected 1,696 vessels, on which were a total of 136,837 persons, of whom nearly 50,000 were immigrants. The legislature was asked for an appropriation of $65,000.

WYOMING

New State Board.—The new State Board of Medical Examiners for Wyoming appointed by the governor is reported as consisting of Dr. John B. Tyrrell, Laramie; Dr. C. D. Stafford, Kemmerer, and Dr. J. G. Cogswell, Riverton. The board met at once and organized, electing Dr. Stafford president, Dr. Cogswell vice-president and Dr. Tyrrell, secretary.

GENERAL

Ophthalmologic and Otologic Meeting.—The next meeting of the American Academy of Ophthalmology and Otology will be held at Chattanooga, Tenn., October 27-29.

Health of the Mobilization Camp.—The health of the troops in the mobilization camp at Texas City is reported to be excellent. There were only seven cases of illness at last reports, including two cases of mumps and one accident.

Quarantine Restriction to be Withdrawn.—The sanitary department of the Canal Zone is about to withdraw the restriction which it has been imposing on vessels arriving at Colon from Liverpool since July last. The last plague-infected rat at Liverpool was found Aug. 30, 1912.

Purity Congress.—The Seventh International Purity Congress will be held under the direction of the World's Purity Federation at Minneapolis, November 7-12. The program will include discussions on the annihilation of the white slave traffic, the suppression of public vice, instruction in sex hygiene and social, civic and moral reform.

Personal.—Dr. Robert L. Dixon, Lansing, secretary of the Michigan State Board of Health, has been elected president of the Lake Michigan Sanitary Association.——Dr. R. B. Teusler, superintendent of St. Luke's Hospital, Tokio, Japan, has returned to the United States on a visit after fifteen years in the Orient.

Crippled Children Discussed.—The sectional meeting on crippled children was held in connection with the Conference on Industrial Education for Children in New York City, March 8. Douglass C. McMurtrie spoke on the historical development of the care for the department and the expense in connection with the trade training in the United States and abroad. Charles H. Burr of the New York Orthopedic Hospital told of the lessening necessity for industrial education in the work of his institution due to the early age at which patients are now being received. Dr. Charles H. Jaeger, New York City, discussed the industrial training provided for adult cripples at the Trade School of the Hospital of Hope. Miss Florence Sullivan of the Trade School for Crippled Boys and Girls, maintained by the Brearley League, spoke on the difficulty of obtaining pupils who were willing to give up the time necessary for a full course. Miss Evelyn Goldsmith spoke on the need for industrial training for the graduates of the special classes for cripples in the public schools.

Infectious Diseases During March.—All of the infectious diseases continued to be quite prevalent during March, measles having the highest number of cases. Philadelphia and St. Louis were the centers of greatest prevalence, the curve of incidence rising steadily during the month for this disease. It is probable that the apex of the curve will not be reached until some time in April. Scarlet fever also continued to prevail widely, schools in many places being closed, although no large or fatal epidemic was reported from any locality during the month. Small-pox was also wide-spread, though not in fatal or very virulent form. Thorough vaccination ended the epidemic in Baltimore and Philadelphia, except for sporadic cases, and in Berkeley, Cal., after a period of quarantine the schools were allowed to open. Meningitis in scattering cases continued to appear in Louisiana, Arkansas, southern Illinois, in the region about Memphis and in Louisville and Maysville, Kentucky, and Cincinnati in sufficient number to cause some anxiety. Infantile paralysis has not appeared in serious epidemic form in any locality during the winter. The season has, however, been somewhat unusual in the number of cases of all the infectious diseases except poliomyelitis.

The Government and the Friedmann Treatment.—The board of medical officers appointed by the Secretary of the Treasury on the suggestion of the Surgeon-General of the Public Health Service to make a thorough investigation of Dr. Friedmann's alleged cure for tuberculosis announces the present status of the matter in *Public Health Reports*, March 21, 1913, as follows: "Dr. Friedmann has submitted to the board a culture of the bacteria which he states are used in his method of treatment. In addition to the observation of persons under treatment by Dr. Friedmann, the board of officers will make experiments to ascertain whether this culture is, as Dr. Friedmann claims, harmless to warm-blooded animals. Considerable time will necessarily be required to carry out these investigations. The work will be carried on as rapidly as possible. In the meantime the public is informed of the inadvisability of tuberculous patients traveling long distances in the hope of receiving the treatment. Those to whom it is administered for demonstration purposes are selected by the hospital authorities from among their patients; the number selected constituting only a small proportion of available volunteers. Certain statements purporting to be expressions of the opinion of the board of officers of the Public Health Service carrying on the investigation have appeared in the newspapers. These officers have expressed no opinion and will not be in position to do so until the work has advanced sufficiently to warrant some conclusion in regard to Dr. Friedmann's treatment."

LONDON LETTER

(From Our Regular Correspondent)

LONDON, March 15, 1913.

Final Report of the Committee on Tuberculosis

The committee appointed by the government to investigate and report on the prevention and treatment of tuberculosis has issued its final report. It believes that by means of treatment and education the risk of infection, even from persons in the more acute and advanced stage of the disease who live in intimate contact with others, may be largely diminished. Infection is frequently disseminated by persons suffering from advanced pulmonary tuberculosis who are in the habit of entering and leaving poor-law institutions. Compulsory isolation of certain cases in a state of high infectivity is particularly recommended when the patient's surroundings are such as to increase the risk of other persons becoming infected. Systematic and thorough disinfection of premises which harbor tubercle bacilli is enjoined, and stress is laid on the importance of early diagnosis. The committee believes that material prosperity of the community as a whole will be reflected in a decreased incidence of tuberculosis, and makes special reference to the necessity for the improvement of housing conditions, and the value of schemes for town planning and garden cities.

BOVINE TUBERCULOSIS

The committee is of the opinion that the ultimate eradication of animal tuberculosis is not impossible but is likely to be slow, and must depend on coordinated and continuous effort. The committee welcomes the proposed legislation dealing with the question of milk-supplies, but thinks that it should include the whole country, and should contain provisions conferring special powers on local authorities, the central authority having the right of enforcement in the event of default by local authorities. It recommends that in the preparation of any scheme for the eradication of bovine tuberculosis the following points should be provided for:

1. County councils and county borough councils should have powers and be required to inspect herds, dairies and farm buildings, and to administer all enactments relating thereto, their work being subject to adequate supervision by a central authority.
2. Only guaranteed tuberculin should be used, and facilities should be given, subject to such conditions as may be thought desirable, for the free testing of cows by qualified and authorized persons.
3. Certain cows should be slaughtered in the interest of both the public and the dairy industry, the premises thoroughly disinfected and no tuberculous animals added to the herd.
4. Measures should be uniform in character, and the same principles should be applied to the whole country.
5. The public should be educated to appreciate the greater value of pure tubercle-free milk and milk products.
6. Farmers should be taught that tuberculosis in cattle is infectious and not hereditary.

CHILDREN

The committee considers the evidence that children are infected through tuberculous milk, as well as from other sources, convincing. Additional provision is required for the treatment of children suffering from the disease, including those having pulmonary tuberculosis, tuberculosis in the bones and joints, and glandular and other forms of tuberculosis. In addition to the provision of treatment at sanatoriums and hospitals for tuberculous children mentioned in the interim report, there is urgent need for open-air treatment and education by means of open-air schools (day and residential), open-air classes, etc. These institutions should deal not only with tuberculous children, but also with the large number of children who are suffering from ailments which, if neglected, would be likely to increase their susceptibility to tuberculosis. These institutions should be utilized, as far as possible, to teach the advisability of the adoption of a practically open-air life in the homes of the children. The school medical officer should be closely in touch with the family medical attendant, and the tuberculosis dispensary should as far as possible provide the same service for children as for adults. Not only should there be a correlation between the dispensary and the various institutions for children, but also the institutions for children, such as the school clinic, the open-air school and the sanatorium, should be correlated in order to ensure the easy transference of children from one institution to another. All appropriate cases should be referred to the tuberculosis dispensary as a clearing-house for the confirmation of diagnosis in doubtful cases, for the purpose of clinical record and for treatment when required. Children of school age fit, or likely to become fit, to receive education in a modified form, should be referred to the school medical officer for education in open-air schools, sanatorium schools or other special schools, or in ordinary public elementary schools under special care and supervision. The arrangements should be such as to secure the cooperation of the general practitioner.

Research

Under the national insurance act a sum of 2 cents per insured person is allotted for research. This yields $285,000 a year. For the administration of this fund the committee recommends the establishment of an advisory council to determine a scheme of research work, and a permanent whole-time secretary, an expert of high standing in research possessing administrative capacity, at a salary of from $6,000 to $7,000 Inquiries should be conducted into clinical, pathologic, experimental, statistical and sociologic questions, and every sanatorium, dispensary and other institution for the treatment of tuberculosis and other diseases should have access to laboratory facilities for carrying out routine work and for the collection of data. Many of these institutions should have complete laboratories of their own. There should also be a library and publishing department. The central bureau should be under the immediate control of the executive committee. Clinical, pathologic, bacteriologic, chemical and other scientific researches should be carried out by competent investigators. Some workers of proved ability should be enabled to devote their whole time to research work, should be given a definite adequate salary and be entitled to pension. Efforts should be made to retain young and talented investigators for such work. The committee considers that the success of the scheme of research recommended will not be fully secured unless it is accompanied by a general extension throughout the United Kingdom of clinical laboratories for the better diagnosis and treatment of tuberculosis, provided for by funds other than those available under the national insurance act.

MEDICAL EDUCATION

The committee is of the opinion that additional facilities should be afforded to medical students and physicians to acquire familiarity with the methods of diagnosis of tuberculosis, especially in its earlier manifestations, and with the methods of treatment, and makes the following recommendations: 1. Medical students and practitioners should be afforded facilities to attend the practice at tuberculous dispensaries, sanatoriums and other institutions. 2. When possible, tuberculosis dispensaries should be directly associated with schools of medicine.

Steps to Check the Use of Veronal and Other Hypnotics

Many deaths have occurred from the use of veronal as a hypnotic; in some cases it appears to have been taken with suicidal intent. Persons have no difficulty in obtaining hypnotic drugs and using them indiscriminately as, with the exception of sulphonal, these are not legally scheduled "poisons." Since the latter drug has been scheduled its use has largely been superseded by veronal. The other hypnotic drugs now scheduled as poisons are proponal (dipropyl-barbituric acid), medinal, diethyl-barbituric acid and derivatives of diethyl-barbituric acid, trional and tetronal. The effect of eclaring these drugs to be "poisons" will be to restrict their le to registered pharmacists, who in selling them must go hrough the legal procedures prescribed for the sale of poisons, e., obtain the name and address of the purchaser and the urpose for which the drug is required. These are entered n a book kept for the purpose, which has to be signed by the urchaser. Moreover, these preparations must be labeled poison"; neglect to do so renders the pharmacist liable to a enalty of $25. The new regulations would certainly have the ffect of checking the use of hypnotics, which in recent years as increased enormously.

The Bradford Anthrax Investigation Board

At Bradford, which is the center of the woolen industry in his country and at which most of the cases of anthrax occur, an anthrax investigation board has existed for some time and has now presented its seventh annual report. The objects of the board are (1) the investigation of anthrax generally, (2) the more precise determination of the classes of wool and hair in connection with which the danger of anthrax arises, and (3) the discovery of further means of prevention. The area of its operations has been confined to the worsted and woolen industries of the West Riding of Yorkshire. During the year, 1,258 samples of wool, mohair, etc., were tested for anthrax spores. Of these, 1,038 were blood-stained. Anthrax spores were discovered in 84, and of these 24 were not blood-stained. The hope expressed in a previous report that it might prove possible to say "no blood, no anthrax," must therefore be given up; nevertheless the presence of blood should always be regarded as a danger-signal.

Of alpaca, 206 samples were taken (196 blood-stained), and in no case could anthrax bacilli be cultivated. From 268 samples of skin and mohair (205 blood-stained), 35 separate cultivations were obtained; 8 samples contained no blood, and only in rare instances could the amount of blood be called a clot.

A satisfactory germicide, capable of killing the anthrax spore without injury to the fibers has not yet been discovered. Steaming of blood-clots will kill anthrax spores in about fifteen minutes when the wool is in a loose state, but the difficulties of disinfecting wool in bulk by steam make the method impracticable for ordinary use; of chemical methods, experiments made with Schattenfroh's and Seymour-Jones' processes have been disappointing, the hydrochloric acid in the one process and the formic acid in the other being neutralized by alkalies in the wool and tap-water. Blood-clots can be softened by bacterial action in from twelve to eighteen hours at 37 C. (98.6 F.). Bacteria possessing this property are contained in the wool itself. It seems that clots so softened are but slowly hardened by the subsequent addition of germicides, such as formaldehyd or the higher phenols.

An analysis has been made of the 88 cases of anthrax reported to the board since 1905 with a view to determine the relative danger of infection. It appears that mohair and Persian have been the most frequent carriers of anthrax. Russian camel's hair is probably the other scheduled material the most likely to have been a carrier. Some suspicion attaches to East Indian goat (possibly all "goat"), and to East Indian wool. Alpaca has probably been harmless. No instance is on record in this district of the early diagnosis of the internal form, and the application of remedies for the external form is often delayed. Sclavo's serum, injected intravenously and in sufficiently strong doses, has proved beneficial.

In view of these results the present regulations for wool-sorting and wool-combing are considered to require revision. When they were drawn up, dust was thought to be the means by which anthrax was spread, but now that the danger is known to lie in the blood-clot, regulations should be based on the principle of eradicating this source, and of preventing danger of infection after sorting and wasting. But no regulations will prove satisfactory that do not provide for some adequate disinfecting process for those sorts most likely to contain the anthrax bacillus. Every inducement should be given to workers on scheduled materials to throw out all blood-stained material, not only for their own safety, but also for the safety of workers in subsequent processes.

Seventeen cases have occurred during 1912: 2 were in females and 15 in males; 3 were internal cases, 14 external. The deaths numbered 5, 3 of the internal, 2 of the external type, 1 of these being probably unique as to the point of entry of the virus, namely, between the left tonsil and the larynx. Four of the cases in which recovery took place were severe. The result was probably due to the use of Sclavo's serum. With one exception, all the patients had come into contact with either mohair or Persian, and it is quite possible that these sorts were responsible for all the cases. Little or no improvement is yet shown either in the number of cases recorded or in the death-rate, although the numbers of severe attacks which have yielded to modern treatment is encouraging.

The After-Care of Lunatics

Useful work is performed by a body termed "The After-Care Association of Poor Persons Discharged Recovered from Asylums for the Insane." At the annual meeting just held, the report showed that during the past year 391 persons had been dealt with, consisting of 148 from the London County asylums, 156 from other county and borough asylums, 18 from mental hospitals and licensed houses, and 69 from other institutions. The total amount of contributions received during the year was $10,000.

Dr. Hubert Bond, commissioner in lunacy, read an important paper on "After-Care in Cases of Mental Disorder and the Desirability of Extending Its Scope." He said that the discharged cases from public asylums in England and Wales numbered 7,000 annually, and of these 1,500 were in urgent need of after-care, not only on humanitarian, but also on economic grounds. The organization of after-care should aim at the establishment of branches of the association, which, though not corresponding to the number of public asylums, should at least be as many as the local authorities acting for lunacy purposes.

He suggested that medical superintendents should be asked if they would notify the association of the intended discharge or allowance out "on trial" of any of their patients. He thought that the association should permit its executive to begin work while the patient was out "on trial" and allow the patient to be received into one of its cottage homes. Visiting committees of asylums should be urged to take advantage more frequently of the lunacy act of 1890, whereby patients who appeared to have recovered might be allowed out "on trial" and be granted an allowance not exceeding the cost of their maintenance in the asylum. This practice was habitually adopted by certain committees, was of the utmost value to the patients, and by its adoption early relapses were materially prevented.

PARIS LETTER

(From Our Regular Correspondent)

Paris, March 7, 1913.

International Conference on Charitable Relief to Aliens

The International Congress on Charities held at Copenhagen in 1910 (The Journal, Sept. 10, 1910, p. 956), asked for the calling of an international diplomatic conference to map out a plan for giving help to aliens. This conference was held recently at Paris, with delegates from twenty countries. While all agree in desiring that charity shall know no political boundaries, and that help should be given freely when needed without regard to the nationality of the person in need, differences arise as to how the help shall be given. Some say that foreigners should be treated on the same basis as natives, meaning that the country in which the person resides shall pay. Others believe that there should be repayment by the native country of the person helped. The first plan has always been opposed by France, because, while there are only about 550,000 natives of France living abroad, there are more than 1,200,000 foreigners living in France. In 1911, out of 25,000,000 francs ($5,000,000) spent in medical charities in the home and in the hospital, 2,800,000 francs ($560,000), were spent on foreigners, 1,584,000 francs ($316,800) in the Department of the Seine alone.

When the principle of repayment is applied, it leads either to restricted relief or to the adoption of half measures. The Copenhagen congress recognized this by rejecting repayment for temporary relief and providing that it should be applied in cases of permanent or practically permanent assistance. After lengthy discussions the Paris conference ended by adopting all the decisions of the Copenhagen congress. In cases of temporary relief (accidents, acute diseases of short duration), the country in which the foreigner resides shall give him the same help that is given natives, without demanding repayment. In cases of prolonged or permanent relief the person shall be returned to his native land unless the country of his birth prefers to reimburse the country in which he is residing, or unless on appeal assistance is extended by a private benevolent society. The contracting countries are to encourage the formation of these societies, and each will take measures, conformable to its laws, to facilitate the working of their charitable functions. The conference also voted to establish an international set of rules governing associations and institutions established for the assistance of foreigners.

Surgery and the Balkan War

In a former letter (The Journal, Dec. 14, 1912, p. 2168), I told of the invitation which was received from Greece by Dr. Monprofit, professor of clinical surgery at the Ecole préparatoire de médecine d'Angers, to organize a sanitary service in that country. In the course of his trip Dr. Monprofit made observations of the greatest interest in surgery on the field of battle, and delivered a lecture on the subject at the last meeting of the Société de l'internat des hôpitaux de Paris.

At present the chief factor in the development of the treatment of wounds made in battle is the dressing of the wound as soon as possible, on the field or in the neighborhood, by means of the individual packet of dressings, carried by the wounded man himself. Doubts have often been raised as to the usefulness of this packet. It has been said that the soldier will not keep it, that he will not take the trouble to apply the dressing, and that besides he could not even if he would. These objections have been nullified by actual experience. The men had their individual packets; the dressing was in good condition when it was needed. The soldiers had been instructed as to the necessity of employing it in case of injury.

During battle the use of the dressings was universal; there was practically no exception to the rule. The wounded often applied the dressings themselves; otherwise the dressings were applied by the surgeons, the litter-carriers, comrades, or officers who happened to be near. The number of wounded in the Balkan War who owe life or limb to the use of the individual dressing on the battle-field is beyond calculation. The first condition of safety consists in the application as soon as possible of an aseptic dressing. Another condition not less important is complete avoidance of examination of the wound, ascertaining the course of the bullet, and using the probe and tampon. The success of non-interference has clearly been shown in this war, and there has been brilliant confirmation of the principles enunciated by Dr. Delorme in opening the last French Congress of Surgery (The Journal, Nov. 23, 1912, p. 1901).

Monprofit called particular attention to the difference in severity of wounds by projectiles from guns and those from cannon. Wounds made by bullets from guns of small caliber, such as those used by the Turks, are comparatively trivial; the pointed, long, straight bullets pass through the soft parts, spreading the tissues in such a way that they close together again after the passage of the bullet. Well protected from the outset, wounds made by these bullets heal quickly. Penetrating wounds of the chest with perforation of the lung have healed for the most part without complication. Wounds by shrapnel, on the contrary, are of the utmost severity: the bones are shattered, the tissues lacerated, the thorax or skull crushed in. The immediate results are frightful, and the ultimate results are much more severe than those from wounds made by bullets shot from guns. As a whole, the results of infantry-fire are relatively harmless, those of artillery-fire more and more severe.

When Dr. Monprofit repeated his lecture before the Académie de médecine there was a lively discussion between Reclus and Pozzi on the question of intervention in cases of abdominal wounds from projectiles of small caliber. Reclus believes that it is better to let the bullet remain in the body than to have recourse to the removal of obstructions, to probing, etc., in an effort to locate it, for this involves opening new vessels, starting further hemorrhage and introducing infectious germs into the midst of the tissues, notwithstanding efforts to adhere to the rules of asepsis and antisepsis. Non-intervention avoids all these contingencies and gives better results in general than intervention, even when it is possible to employ roentgenoscopy and roentgenography, means which are often unreliable in searching for projectiles. Pozzi is of the opinion that even if intervention is proscribed on the field of battle, it is indicated when the wounded man is in the hospital, where conditions are favorable for the success of its employment.

Treatment of Sydenham's Chorea

In line with the recent announcement of Pierre Marie as to the treatment of Sydenham's chorea with intravenous injections of salvarsan (The Journal, Jan. 4, 1913, p. 63), Dr. Comby said at a recent meeting of the Société médicale des hôpitaux de Paris that as good results may be secured through the administration of arsenic by mouth. Comby prefers to use Boudin's solution (a 1:1,000 solution of arsenous acid). He prescribes 5 gm. the first day in a mistura gummosa, 10 gm. the second, 15 gm. the third, 20 gm. the fourth, 25 gm. the fifth, and then diminishes the dosage 5 gm. daily until the initial dose of 5 gm. is reached, after which the medication is suspended. The duration of the treatment is nine days. Patients are also given rest in bed and an exclusive milk diet or one of milk and vegetables, and are isolated.

In 545 patients with chorea given this treatment Comby has noticed only one case of polyneuritic paralysis of the lower limbs. The disease was cured in the other patients at the end of twenty-eight or thirty days on the average.

Dr. Triboulet said that in 350 cases compiled by himself he had verified 335 cures without the use of arsenic, about 96 per cent. Before announcing the efficacy of the treatment of chorea by arsenic or any other medicament, the variety of chorea in question should first be determined, and above all how patients react to it who are seriously ill or in relapse. Triboulet concludes that patients with Sydenham's chorea can be cured by arsenic, in spite of arsenic, or without arsenic, all in the same length of time.

Acceptance of Donations

The Faculté de médecine de Paris has been authorized to accept the gift made by Mme. Dieulafoy, widow of the late professor, of two annuities of 500 francs ($100) each, to be known as the Donation Georges Dieulafoy, and to be used to cover the expenses of study, of examination, and of the printing of the theses of two French students in need of assistance.

The school has also been authorized to accept the gift of 28,000 francs ($5,600) from the widow of Dr. Henry Vivier, the income from which is to be used as endowments to help the scientific development of general medical clinics, or to be distributed as scholarships or for foreign medical missions, at times and in the manner fixed by the council of the school.

Anniversary of Professor Renaut

The fortieth anniversary of Dr. Renaut's debut as a teacher has been celebrated at Lyons. Dr. Renaut is professor of general anatomy and histology of the Faculté de médecine of that city. In addition to his colleagues, Pozzi and Albert Robin of Paris took part in the exercises, and telegrams were received from Waldeyer of Berlin, Laskowski of Geneva, Marinesco of Bucarest, and others.

Personal

Dr. Hartmann, professor of minor surgery at the Faculté de médecine de Paris, has been appointed professor of clinical surgery, succeeding Segond, who died in October.

Treatment of Infections by Ether

At a recent meeting of the Société de chirurgie, Dr. Souligoux made an interesting report on the employment of ether in infections. This was used for the first time in 1891 on a man who had had both legs crushed by a heavy truck. The patient refused double amputation and Souligoux dressed the two enormous wounds with ether and applied a plaster dressing. No infection followed, and the patient recovered. From that time Souligoux has always used this method in all the infections, whether severe or light, such as felons, lymphangitis and phlegmons, with excellent results in hundreds of cases. He begins by carefully cleansing the part with soap and water; then he applies compresses soaked in ether, covers these with a padding and binds them lightly.

After having studied the action of the ether on the peritoneum of guinea-pigs, he has been using this medication in abdominal infections in man and obtained unexpectedly good results: such, in particular, as the cure of a patient with intestinal obstruction for six days and a perforation of the cecum. After having sutured the perforation and having bathed the peritoneal cavity, which was full of pus and fecal matter, copiously with ether, he closed the abdomen, establishing drainage, and the patient recovered.

This method has been applied by Dr. Marcille, who sent Dr. Souligoux a memorandum of forty cases of peritoneal effusion, contusions and wounds of the abdomen with lesions of the intestine and of the stomach, or general peritonitis, and except for two or three deaths, intervention was followed by cure. Souligoux believes that he has ground for concluding that the application of ether in the treatment of infections of the peritoneum is accompanied with no danger and renders real service.

On the other hand Dr. Cuneo, who has obtained good results with ether in superficial infections, such as felons, has not been able to achieve success in peritonitis. He believes that in such cases operation should be done early and that the cause should be treated: removal of the appendix, closing the perforation, etc.

Powers of Resistance of the Sexes in Infancy

Statisticians agree that in man more males than females die in intra-uterine life and immediately afterward. This has been explained by the hypothesis that the male sex is more frail. This view has been contradicted by Drs. A. Pinard, professor of clinical obstetrics at the Faculté de médecine de Paris, and A. Magnan, in a communication to the Académie des Sciences. These investigators have been able to show from statistics collected at the Baudelocque Clinic between 1891 and 1910 that if the mortality of boys is greater than that of girls, this is true only for those infants dying during labor or in the few days during which the mother is obliged to remain at the clinic. The figures show that if the total number of fetuses dying during gestation is taken into account, more boys die some years and more girls in other years. In the long run the mortality among boys is not greater than that among girls. It remained to find the explanation of the greater number of deaths among boys during and after childbirth. Pinard and Magnan then thought of examining the weight of the fetus. They found that boys are heavier than girls, and this is sufficient to explain the greater mortality among boys. Being larger, they undergo more traumatism in their passage through the birth canal; this reduces their powers of resistance. They die during labor or if born alive they speedily succumb unless they regain a normal level of health.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 7, 1913.

Personal

Professor Heubner delivered his farewell lecture, March 1, in the presence of a large number of his present and former pupils and of members of the medical faculty of the university. The occasion was taken by some of his pupils to present a bust of Heubner which is to be a permanent ornament to the lecture room. Professor Finkelstein presented a *Festschrift* by the pupils and stated that a Heubner prize is to be established which shall be awarded once in three years for the best work in pediatrics.

Privat-Docent Dr. Noeggerath, a pupil of Heubner, has been called to succeed Professor Salge as director of the pediatric clinic at Freiburg.

The well-known Berlin gynecologist, Professor Dührssen, contracted a severe infection at an operation, which for a number of days seriously threatened his life. As a result he has felt compelled to give up the direction of his private clinic. In the last few days there has been some improvement in his condition.

This Year's German Medical Study Tour

The German Central Committee for Medical Study Tours has decided on a trip to the International Medical Congress in London, August 6 to 12, for which they have chartered the twin-screw steamer *Kronprinzessin Cecilie* of the Hamburg-American line. The trip begins August 3 at Hamburg and ends August 28, at the same place. Visits are contemplated to the chief points of interest in the British Isles and Holland.

Friedmann's Tuberculosis Remedy

The energetic action taken in the Friedmann matter by the New York physicians has given general satisfaction here. Professor Ehrlich is quoted in a German newspaper as stating that his tests with the remedy, which had been given him for official investigation, are far from being finished and months may elapse before the result will be known. All statements that may be published before the final report will be premature and must partake of the nature of guesses.

Association News

THE MINNEAPOLIS SESSION

Opportunity to Take a Side Trip to Glacier National Park, Newest American Playground

The Committee on Arrangements announces that one of the interesting side trips which may be made by those who attend the Minneapolis session of the Association, June 17-20, is that to Glacier National Park, in northwestern Montana.

This park, with an area of 1,400 square miles, is situated on the Great Northern Railway, in one of the most picturesque portions of the Rocky Mountains. Streams from sixty glaciers feed 250 mountain lakes which teem with trout. The region is another Switzerland; Mt. Wilbur, for example, has a striking resemblance to the Matterhorn. Log chalets have been built to afford eating and sleeping accommodations, and this will be the first season of a large hotel at the entrance to the park.

Opportunities of all sorts exist for going about in the park. A scenic highway has been built for automobiles; there is a horse stage; mountain ponies may be hired; on the larger lakes are boats; and those who like to walk or who wish to practice economy may tour the park on foot. More details will be given in the Minneapolis Number of THE JOURNAL, May 10, or may be obtained from Dr. H. H. Kimball, Chairman of the Committee on Excursions, 1106 Donaldson Building, Minneapolis.

Clinics at Minneapolis

On Monday, June 16, Friday evening, June 20, and Saturday morning, June 21, demonstration clinics will be given by prominent men from different parts of the country at the larger hospitals in the Twin Cities. Arrangements have also been made for surgical clinics in Minneapolis, St. Paul and Rochester during the several days immediately preceding and those following the scientific sessions. No clinics will be held during Tuesday, Wednesday and Thursday, or on Friday morning—the time assigned to the scientific work of the various sections of the Association.

The Association's Committee to Arrange for Clinic Days, in cooperation with the Subcommittee on Clinics of the local Committee on Arrangements, will issue a more detailed report later.

Marriages

Clesson Cushman Atherton, M.D., Elgin, Ill., to Miss Lucy Rose Thompson of Springfield, Ill., at Quincy, Ill., March 11.

Paul Tilman Talbot, M.D., New Orleans, to Miss Jenny Swart Mitcheson of Marinette, Wis., March 12.

Harry McPherson Brandel, M.D., Los Angeles, Cal., to Miss Adele Persch of Chicago, March 22.

Francis Lowell Burnett, M.D., Boston, to Miss Helen Read, Manchester-by-the-Sea, March 12.

Rigdon Osmond Dees, M.D., to Miss Helen Hazel Groome, both of Greensboro, N. C., March 15.

Mark D. Weed, M.D., M. C., U. S. Army, to Miss Josephine Hufford of Reading, Pa., March 20.

Richard Lewisohn, M.D., to Miss Constance R. Strauss, both of New York City, March 19.

Cecil Dabney, M.D., Sherwood, Md., to Miss Frances Cole, at Baltimore, March 5.

Deaths

Prince Albert Morrow, M.D. the eminent dermatologist of New York City; syphilologist and apostle of sex hygiene and sanitary and moral prophylaxis; died suddenly at his home, March 17, aged 66.

He was born in Christian County, Ky., received the degree of A.B. from Princeton College, Ky., in 1865 and his medical degree from New York University, New York City, in 1874. From 1884 to 1904 he was attending surgeon to the City Hospital, New York City. He was clinical professor of venereal diseases since 1884; lecturer on dermatology in 1882 and 1883, and clinical professor of genito-urinary diseases from 1886 to 1890 when he became emeritus professor in the University and Bellevue Medical College. He was attending physician of the skin and venereal department of the New York Hospital from 1890 to 1904 and consulting dermatologist to St. Vincent's and the City hospitals.

He was a member of the American Medical Association and chairman of the Section on Hygiene and Sanitary Science in 1907; a member of the American Academy of Medicine and New York Academy of Medicine. He was also president of the American Dermatological Association in 1890-91, instrumental in the founding of the American Society for Sanitary and Moral Prophylaxis and its president since its organization in 1905; president of the American Federation for Sex Hygiene, and an active corresponding or honorary member of many societies specializing in dermatology and syphilology both at home and abroad. He was one of the founders and editor from 1882 to 1892 of the *Journal of Cutaneous and Venereal Diseases*. Chief among his contributions to the literature of his specialties are "The Atlas of Skin and Venereal Diseases," which appeared in 1888-89; "System of Genito-Urinary Diseases, Syphilology and Dermatology," in three volumes in 1892-94; "Leprosy" in 1899, and "Social Diseases and Marriage" in 1904.

Archibald Ezekiel Isaacs, M.D. New York University, New York City, 1886; a member of the American Medical Association and of the New York Academy of Medicine; clinical instructor in surgery in Cornell Medical College; a member of the staff of the Sydenham Hospital; organizer of Beth Israel Hospital and chief surgeon and honorary secretary of the medical board of that institution; died at his home in New York City, March 14, from pneumonia, aged 46.

John Herman Droge, M.D. Bellevue Hospital Medical College, 1884; laryngologist and otologist to the German hospital, Brooklyn; one of the founders of the Bushwick Hospital and of the Brooklyn Throat Hospital; a member of the faculty of the Brooklyn College of Pharmacy; died at his home in that city, March 15, aged 52. At a meeting of the board of directors of the German Hospital, March 17, resolutions of esteem and regret were adopted.

Joseph Alexander Holton, M.D. Philadelphia College of Medicine, 1852; since 1855 a resident of Centerville, Eastern Shore, Md.; for several years president of the Centerville Academy and president of the Board of School Commissioners of Queen Annes County; physician of the County Almshouse since 1871; died at his home, February 22, from senile debility, aged 87.

Nelson Gales Blalock, M.D. Jefferson Medical College, 1861; a member of the Washington State Medical Association; surgeon of volunteers during the Civil War; a pioneer practitioner of southeastern Washington; was found unconscious in his office in Walla Walla as the result of a cerebral hemorrhage, March 13, and died in a hospital, March 14, aged 77.

Frank Adelbert Jones, M.D. University of Buffalo, N. Y., 1869; a member of the American Medical Association; once president of the Monroe County Medical Society; the first member to die of the Dozen and One Club of Rochester, N. Y., which was founded twenty-nine years ago, died at his home in Rochester, March 9, from pneumonia, aged 65.

Jesse E. Wilson, M.D. Castleton (Vt.) Medical College, 1865; for fifty-six years a practitioner of Rochester, Mich.; first president of the village; a member of the school board for forty years and its president for eight years; surgeon of Volunteers during the Civil War; died at his home, March 7, from senile debility, aged 84.

Ambrose Treganowan, M.D. Philadelphia College of Medicine and Surgery, 1854; a member of the American Medical Association; a veteran of the Civil War; for three terms mayor of South Amboy, N. J., and for several years editor and proprietor of the *South Amboy Argus*; died at his home, March 10, from senile debility, aged 83.

James Edward Blair, M.D. University of Pennsylvania, Philadelphia, 1896; of Burlington, N. J.; formerly a member of the Common Council; surgeon to the Burlington County Hospital and surgeon to the Third Infantry, N. G., N. J.; died in the Medico-Chirurgical Hospital, Philadelphia, March 8, from heart disease, aged 41.

Rezin W. Lindsey, M.D. University of Nashville, Tenn., 1872; a member of the Arkansas Medical Society; a Confederate veteran; professor of medicine in his alma mater; a member of the medical staff of the Logan H. Roots Memorial Hospital, Little Rock; died at his home in that city, March 8, aged 66.

Eugene Joseph Carolan, M.D. Bellevue Hospital Medical College, 1878; for more than thirty years a practitioner of Brooklyn and for many years a member of the attending staff of the Bushwick Hospital; died at his home in Brooklyn, March 15, from heart disease, following an attack of influenza, aged 51.

Howard G. Osgood, M.D. Eclectic Medical Institute, Cincinnati, 1856; for more than fifty years a practitioner of the lower White River Valley, Ind.; assistant surgeon of Indiana Volunteer Cavalry during the Civil War; died at his home in Gosport, March 10, from heart disease, aged 78.

Benjamin D. King, M.D. Hahnemann Medical College, Chicago, 1884; city physician of Muskegon, Mich., in 1888; attending physician to the Muskegon Children's Home and chief of the maternity of Hackley Hospital; died at his home in Muskegon, March 6, from septicemia, aged 62.

James Everson Welliver, M.D. Pulte Medical College, Cincinnati, 1877; surgeon to the Miami Valley Hospital and Montgomery County Children's Home, Dayton, Ohio; president of the Dayton Board of Health since 1910; died at his home, March 14, from pneumonia, aged 61.

George Smith Adams, M.D. Hahnemann Medical College, Philadelphia, 1876; for twenty years superintendent of the Massachusetts State Hospital, Westboro; superintendent of the Givens Sanitarium, Stamford, Conn.; died at his home in Stamford, March 17, aged 64.

Sobieski H. Brady, M.D. University of Pennsylvania, Philadelphia, 1877; a member of the Medical Society of the State of Pennsylvania; for thirty years a practitioner of Lost Creek; died at his home in Girardville, March 17, from cerebral hemorrhage, aged 61.

Carlton Revere Thomas, M.D. Boston University School of Medicine, 1901; of Dorchester, Boston; died in the Homeopathic Hospital, March 8, from the effects of gasoline burns received in an explosion in his garage a few hours before, aged 35.

Charles F. Winton, M.D. University of Tennessee, Nashville, 1884; a member of the American Medical Association; for many years chief surgeon of the Baltimore and Ohio Southwestern Railway; died at his home in Cincinnati, March 13, aged 49.

Park Holland, M.D. New York University, New York City, 1884; formerly of Billings, Mont.; major M. C., N. G., Wyo., and physician and coroner of Johnson County; died at his home in Bonners Ferry, Ida., March 5, from heart disease, aged 57.

John A. Carter, M.D. Missouri Medical College, St. Louis, 1867; a veteran of the Civil War; a resident of Jasper County (Mo.) since 1865, and an extensive land owner of that county; died at his home in Carthage, March 7, from senile debility, aged 79.

William Valentine Cook, M.D. Bellevue Hospital Medical College, 1898; a member of the American Medical Association; consulting physician to the Pasadena (Cal.) General Hospital; died at his home in that city, February 16, from tuberculosis.

John T. McLaughlin, M.D. Eclectic Medical Institute, Cincinnati, 1867; for more than thirty years a practitioner of Springfield, O., and for several years jail physician; died at his home, March 13, from disease of the liver, aged 69.

Harry Francis Sloane, M.D. Rush Medical College, 1904; of Miami; a member of the Arizona Medical Association; was thrown from his buggy and kicked by his horse, dying from the injuries a few hours later, March 11, aged 37.

Royal D. Horn, M.D. University of Wooster, Medical Department, Cleveland, O., 1881; for many years a practitioner of Butler, O.; died at Lakeside Hospital, Cleveland, March 1, from pneumonia, complicating diabetes, aged 54.

Clarence Russell Grier, M.D. Jefferson Medical College, 1893; a member of the Medical Society of New Jersey; for twenty years a practitioner of Camden; died in Cooper Hospital in that city, March 12, from pneumonia, aged 42.

Edward Everett Butler, M.D. Jefferson Medical College, 1889; a member of the Washington State Medical Association; a member of the state legislature in 1903; died at his home in Anacortes, March 8, from erysipelas, aged 42.

Charles Milo Knight, M.D. Louisville (Ky.) Medical College, 1894; for several years health officer and medical examiner and a member of the school board of Chaplin, Conn.; died at his home, March 10, from diabetes, aged 56.

Edward R. Leatherbury, M.D. Jefferson Medical College, 1848; a practitioner of Onancock, Va., until 1906; for sixty years a vestryman of Holy Trinity Church; died at his home, March 1, from senile debility, aged 87.

Jacob Karn, M.D. Rush Medical College, 1884; a member of the American Medical Association; founder of the Ortonville (Minn.) Hospital and mayor of that city for a time; died in San Diego, Cal., March 15, aged 56.

James McClure, M.D. Rush Medical College, 1868; of St. Louis; a member of the American Medical Association; a veteran of the Civil War; died at the home of his brother in Vincennes, Ind., March 14, aged 71.

Cecil Z. Smith, M.D. University of Texas, Galveston, 1909; a member of the American Medical Association and president of the Collin County (Texas) Medical Association; died at his home in Anna, March 16, aged 29.

Archibald Waite Bellamy, M.D. Queens University, Kingston, Ont., 1897; a member of the Medical Society of the State of New York; died at his home in Rochester, N. Y., March 17, from pneumonia, aged 44.

James H. Potter, M.D. Medical College of Ohio, Cincinnati, 1870; a veteran of the Civil War; for many years a practitioner of Boulder County, Colo.; died at his home in Denver, about March 10, aged 69.

Augustus Greene Kimberley, M.D. New York University, New York City, 1862; surgeon of U. S. Volunteers during the Civil War; died at his home in Brooklyn, March 7, from senile debility, aged 80.

Joseph G. Waldrop, M.D. College of Physicians and Surgeons, Baltimore, Md., 1876; a member of the Medical Society of the State of North Carolina; died at his home in Hendersonville, N. C., about March 1.

Eugenia Gordon Little, M.D. University of Oregon, Portland, 1899; of San Diego, Cal.; formerly of Portland; who was operated on in San Diego, March 2, for malignant disease; died March 4, aged 49.

Francis Henry Cohan, M.D. Medical School of Maine, Brunswick, 1901; a member of the American Medical Association; of Leominster, Mass.; died in a hospital in Norwich, Conn., from nephritis, aged 36.

William D. Jones, M.D. Pennsylvania Medical School, Philadelphia; for sixty years a practitioner of Alabama and Texas; died at his home in Marshall, Tex., March 10, from senile debility, aged 96.

Leon Strauss, M.D. University of Louisville, Ky., 1877; formerly a practitioner of Louisville; died in St. Louis, Mo., March 16, aged 52.

Charles A. A. Faget, M.D. Tulane University, New Orleans, 1876; Paris Faculty of Medicine, 1880; an expert on yellow fever; died at his home in New Orleans, March 8, from diphtheria, aged 58.

Joseph E. Stegman, M.D. Beaumont Hospital Medical College, St. Louis, 1895; of Hillsboro, Mo.; died in an ambulance in St. Louis while being taken to the City Dispensary, March 7, aged 38.

William Delano Sproat, M.D. Tufts College Medical School, Boston, 1912; formerly of Concord, N. H.; intern in the Worcester (Mass.) City Hospital; died in that institution, March 4, aged 38.

Robert Alfred Moore, M.D. University of Maryland, Baltimore, 1891; a member of the Medical Society of the State of North Carolina; died at his home in Durham, February 18, aged 43.

Robert H. Taylor, M.D. Atlanta (Ga.) Medical College, 1879; a member of the Griffin (Ga.) Hospital; died at the home of his brother in that city, March 9, from angina pectoris, aged 55.

John D. Hayes, M.D. Hospital College of Medicine, Louisville, Ky., 1906; a member of the Kentucky State Medical Association; died at his home in McKee, January 18, aged 37.

John L. Walker, M.D. Vanderbilt University, Nashville, Tenn., 1881; at one time health officer of Henry County; Tenn.; died at his home in Paris, March 7, from nephritis, aged 65.

Jacob Newton Rannells, M.D. Eclectic Medical Institute, Cincinnati, 1886; a member of the Indiana State Medical Association; died at his home in Rochester, Ind., March 11, aged 52.

Arthur E. Gue, M.D. Chicago Homeopathic Medical College, 1890; formerly of Detroit and a member of the staff of Grace Hospital; died at his home in Oklahoma, Okla., March 11.

John Shartle, M.D. Jefferson Medical College, 1895; for many years a practitioner of Welsh Run, Pa.; died in his apartment in Hagerstown, Md., March 10, from tuberculosis, aged 54.

Christopher Brenner, M.D. University of Maryland, Baltimore, 1906; formerly of Bolton, Kan., and more recently of Dover, Okla.; died in Oklahoma City, March 3, aged 38.

Frank Henry Thomas, M.D. McGill University, Montreal, 1908; physician to the mines at Sand Coulee, Mont.; died at his home, February 19, from tuberculosis, aged 32.

Joseph Walter Armstrong, M.D. Drake University, Des Moines, Ia., 1903; of Des Moines; died at Mercy Hospital in that city, March 7, from acute gastritis, aged 33.

William Isaac Reece, M.D. College of Physicians and Surgeons, Baltimore, 1893; died suddenly at his home in Adamson, Okla., February 14, from heart disease, aged 41.

Walter La Forrest Marsden, M.D. Kentucky School of Medicine, Louisville, 1891; for many years a practitioner of Burns, Ore.; died in Whittier, Cal., March 1, aged 55.

Eugene Oliver Ranney, M.D. Long Island College Hospital, Brooklyn, N. Y., 1889; a veteran of the Civil War; died at his home in Orleans, Vt., January 15, aged 72.

Turner S. Riggs, M.D. Miami Medical College, Cincinnati, 1867; of McBaine, Mo.; died in the Parker Hospital, Columbia, Mo., March 3, from influenza, aged 72.

Frederick Wilhelm Alexis Bergengren (license, Massachusetts, years of practice, 1894); died at his home in Lynn, March 7, from heart disease, aged 71.

William T. Dougan, M.D. Rush Medical College, 1867; a lifelong resident and once mayor of Niles, Mich.; died at his home in that city, March 10, aged 74.

Henry R. Simon, M.D. Western Reserve University, Cleveland, O., 1896; died at his home in Warroad, Minn., March 13, from heart disease, aged 48.

Allen Henry Glover, M.D. New York University, New York City, 1889; died at his home in Knoxville, Pa., February 8, from pneumonia, aged 48.

Francis Marion Loper, M.D. Indiana Eclectic Medical College, Indianapolis, 1885; died at his home in Atchison, Kan., March 10, aged 69.

Jacob Von Valkenburg, M.D. Philadelphia University of Medicine and Surgery, 1862; died at his home in Sharon, N. Y., March 7, aged 74.

Anthony Eugene Magoris, M.D. Long Island College Hospital, Brooklyn, 1880; died at his home in Binghamton, N. Y., February 5, aged 58.

Edward Sanford, M.D. Harvard Medical School, 1852; died at his home in Attleboro, Mass., February 5, from senile debility, aged 87.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PLUTO CONCENTRATED SPRING WATER

The Commercial Possibilities in Epsom and Glauber's Salts

We have received at different times inquiries of which the following that came a few days ago is typical: "Please give me any information that you may possess as to the character of Concentrated Pluto Spring Water."

It has been said that there is as much humbug and fraud connected with the exploitation of so-called mineral waters as there is in the "patent-medicine" business. An examination of the claims made for "Pluto Water" seems to verify this statement. "Pluto Water" is said to be derived from one of three springs at French Lick Springs, Indiana. But the so-called Pluto Water that may be purchased at the drug-store is not the "natural" water but "Pluto Concentrated." While it is doubtless possible to purchase the "natural" Pluto Water by ordering it specially, we believe that not one drug-store in a hundred carries anything but the so-called "concentrated" Pluto Water. The distinction between the "natural" and the "concentrated" will be referred to more fully, later.

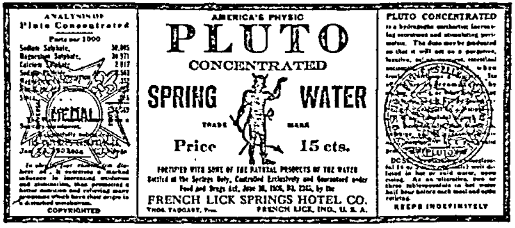

Fig. 1.—Photographic reproduction (reduced) of the label on "Pluto Concentrated Spring Water." The only hint that the purchaser is given of the fact that Epsom salt and Glauber's salt have been added to this stuff is to be found in the line inconspicuously stating that it is "fortified with some of the natural products of the water."

The claims made for Pluto Water are as outrageous as those made for many "patent medicines." For instance:

> "Will quickly relieve and permanently cure such afflictions as indigestion, constipation, kidney, liver and stomach trouble, rheumatism, nervous disorders, acute or chronic alcoholism, etc."
>
> "A swift and sure specific for indigestion, constipation, kidney and liver diseases. . . ."
>
> "Exercises a specific influence both in the prevention and cure of inflammation of the biliary tract."
>
> "Renovates and builds tissue."
>
> "Restores the functions of the stomach."

More than this could hardly be asked or expected even of Peruna, Duffy's Malt Whisky or Lydia Pinkham's Compound! The composition of a water that will produce such wonders is, naturally, a matter of interest. The essential constituents of Pluto Water are said to be the sulphates of sodium, magnesium and calcium, the chlorid of sodium and the carbonate of magnesium. According to an analysis published by the French Lick Springs concern, these ingredients are found in the following proportions (parts per thousand) in the "natural" Pluto Water:

Sodium sulphate (Glauber's salt)	0.68
Magnesium sulphate (Epsom salt)	0.34
Calcium sulphate	1.70
Sodium chlorid (salt)	1.99
Magnesium carbonate	0.55

To the average person the composition of the "natural" Pluto Water is largely a matter of academic interest, for practically it is only the so-called "concentrated" Pluto Water that is found on the market. The impression is given in all of the advertising matter that the "concentrated" Pluto Water is "natural" Pluto Water boiled down. The following quotations from the literature will make this plain:

> "Pluto Concentrated Spring Water is the same water [as 'natural' Pluto] except that it goes through a process of boiling, eliminating the free gases, retaining the sulphates, etc., making this water in the neighborhood of ten times as strong as the natural spring water."
>
> "It ['concentrated' Pluto] is a product of the Natural Pluto Spring Water with this exception, that in the process of concentrating it, we eliminate all gases, retaining all the solids."

The public and the medical profession, then, are led to believe that "concentrated" Pluto Water is identical with "natural" Pluto Water except that the former has been boiled down until it is ten times as strong. With this in mind, study the following analysis which the company issues as representing the composition (parts per thousand) of the "concentrated" Pluto Water:

Sodium sulphate (Glauber's salt)	50.00
Magnesium sulphate (Epsom salt)	30.97
Calcium sulphate	2.81
Sodium chlorid (salt)	2.50
Magnesium carbonate	0.35

From this, it will be seen that, even according to the company's own figures, "concentrated" Pluto differs from the "natural" Pluto *in that it has more than eighty times as much* Glauber's salt; nearly *one hundred times as much* Epsom salt; less than *twice as much* calcium sulphate; only *a trifle more* sodium chlorid and *less* magnesium carbonate than is found in the "natural."

What does this mean? It means that "concentrated" Pluto bears but a slight relation to "natural" Pluto, and it means that, for all practical purposes, "concentrated" Pluto Water is essentially a solution of Epsom salt and Glauber's salt in the proportion of three of the former to five of the latter.

The exploiters of "concentrated" Pluto are evidently marketing a solution of Epsom salt and Glauber's salt under a name that has some commercial value, and are making claims for their saline laxative that range from gross exaggeration to positive fraudulency.

It may be asked, "Why does not the Food and Drugs Act protect the public against this fraud? How can the French Lick Springs concern label a mixture of this sort 'Pluto Spring Water'?" We cannot answer these questions. The only indication that the label gives of the facts we have stated is that in small type—so placed as to be unnoticed by the average person—appears the following:

> "Fortified with some of the natural products of the water."

This admission, so far as we have been able to learn, is made in none of the advertising matter.

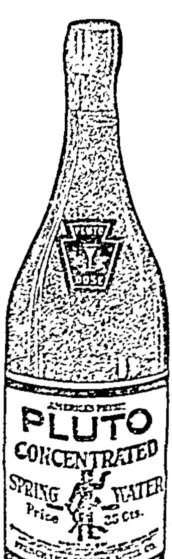

Fig. 2.—Pluto Concentrated Spring Water. The stuff is essentially a solution of Epsom salt and Glauber's salt.

One other point is worth attention. Much is made, in the booklets the exploiters send out, of the fact that sulphur is present in the "natural" Pluto in the form of hydrogen sulphid (sulphuretted hydrogen) and sulphuric anhydrid (sulphuric acid). This ingredient, says the concern, "is by many considered the most important constituent of the water." It is hardly necessary to remind our readers that whatever sulphuretted hydrogen gas may be found in the "natural" Pluto, not a particle of it exists in the "concentrated" Pluto. The company does not explain how it is possible to have sulphuric acid in an alkal[illegible] water!

The following require [illegible] The Lab[illegible] Medicinal and Table W[illegible] Food I[illegible] Decision 94[illegible] issued by [illegible] ment [illegible] culture:

> "All waters which, though natural in the beginning have anything added to them or abstracted from them after they come from source, should either be labeled as 'artificial' or should be so labeled as to indicate that certain constituents have been added to or extracted from them. It is suggested that the word 'artificial' or the above explanation, as the case may be, should appear in as large type as the name of the water in question and on a uniform background."

One wonders whether the contempt which the label of Pluto Concentrated Spring Water shows for "Food Inspection Decision 94" bears any relation to the fact that the French Lick Springs Hotel Company has for its president—Thomas Taggart—a politician whose influence at Washington is such as to make it unnecessary for the company to worry about such trivial things as mislabeling.

ECKMAN'S ALTERATIVE

What One "Lunger" Thinks of It

A consumptive in Virginia wrote to The Journal within the last week or two ordering one of our pamphlets on "Consumption Cure Fakes." Part of his letter is so interesting that we give it:

> "I might add that I am a 'lunger' and have been taking treatment in some regular sanatorium for tuberculosis for the past fifteen months with excellent results, but my *well-wishing friends* besiege me with advice on 'patent medicines,' furnish the dope for me to take and then consider me ungrateful because I strictly adhere to my physician's advice, and do not try every fake that comes on the market; in fact, one acquaintance dying of tuberculosis bequeathed me three bottles of Eckman's Alterative, *which had done him so much good*."

Correspondence

Progress in Medical Education

To the Editor:—In "Progress in Medical Education" (The Journal, March 8, 1913, p. 743) President Pritchett of the Carnegie Foundation mentions the University of Tennessee as "a university lending the shelter of its name and its charter to a medical school which it neither controls nor supports, and whose ideals of teaching are on an entirely different plane from those maintained in the other departments of its work." Inasmuch as this statement does a great injustice to our institution, I beg that you will allow me to say that the college of medicine of the University of Tennessee is an integral part of the state university and is absolutely and completely under the control of its president and board of trustees, and that no member of its faculty has any pecuniary interest in the school other than the salary which he is allowed for his services by the board of trustees. President Pritchett was evidently misinformed in regard to the status of our college of medicine; otherwise he would not, of course, have included it in the list of schools having connection with the parent institution which he deprecates.

Brown Ayres, Knoxville, Tenn.
President, University of Tennessee.

President Ayres' letter was referred to President Pritchett, who writes:

To the Editor:—In reply to President Ayres' letter I venture to say that it would be a genuine source of regret to me to do "a great injustice" to the University of Tennessee. I do not feel, however, that the report to which he refers can be so construed. If the college of medicine at Memphis is now an integral part of the University of Tennessee, it is nevertheless true that the history of the university in medicine up to a very recent date is correctly described in this paper. Certainly the University of Tennessee would not accept either its Nashville school or the Memphis school, as it was taken over, as representing the ideals of instruction in the university itself. For the improvement in the Memphis school I tried to give full credit; and if it still continues to bring forth the fruits of medical righteousness no one will be more ready than I to rejoice over it. The university cannot, however, expect to live down its medical past in a single year.

Henry S. Pritchett, New York

The Menace of Irrational Legal Processes

To the Editor:—We have all recently passed through a distressing experience here in Baltimore on account of an outrageously unjust decision of our court in a "malpractice" suit against Dr. Guy L. Hunner. My own utter disgust with the methods of the legal profession is such that if I were to act on the impulse of the moment I would abandon my surgical work, and retire to some distant field to escape as far as possible from the nauseating associations with courts and their wearing delays and postponements and their processes of flagrant injustice.

The case was this: Dr. Hunner operated on a woman with a large perinephritic tuberculous abscess. The lower pole of the kidney was calcareous and tuberculous; he did a remarkable conservative operation, resecting the diseased portion and saving a good organ which has healed perfectly and given no further trouble. The surrounding tuberculous abscess cavity naturally demanded prolonged drainage until it healed, in about seven months. During this period there was a trifling fecal drainage for a short time. Dr. Hunner in three days removed the substantial drain inserted by him at the operation, but his resident later left in the suppurating wound a tiny sliver of gauze just large enough to fill half an ordinary thimble. This appeared and was pulled out some weeks later by the physician at the patient's home in the country. A trap was then set for Dr. Hunner in the form of a letter complaining of carelessness and hoping that no axes, saws, etc., were still concealed in the wound. He replied indulgently, "I am sorry we were so careless," expressed the hope that there were no axes and saws, etc., still to be extracted and advised her as to further conduct. The patient gradually in the intervening months developed a pulmonary tuberculosis from which she now suffers to a marked degree.

Dr. Hunner gave his precious time and his faithful services over a period of more than half a year. It was alleged at the trial, and an "expert"—a doctor-lawyer—was produced to prove it, that the tiny drain caused both the fecal fistula and the pulmonary tuberculosis. It was also alleged that Dr. Hunner was responsible for leaving "the drain" in; and finally, that he ought, therefore, to be mulcted for damages. The "expert" lawyer-doctor qualified by alleging that he had had one kidney operation within the past year—a suspension of the kidney last August—"a simple operation," as he stated with becoming modesty.

All the expert witnesses testified for the defendant; namely, that the wound needed prolonged drainage and that the tiny sliver of gauze did no harm at all.

Dr. J. T. M. Finney said that its presence was beneficial as the wound needed the stimulus of a drain to hasten contraction and closure.

Dr. Thomas S. Cullen appeared with the identical piece of kidney which had been removed and showed that it was extensively tuberculous, demonstrating that inasmuch as the operation was done on a tuberculous kidney, the operation could in no way be said to have produced a condition which was antecedent to it.

I testified as to the general excellent care given the patient throughout, not only equal to the average as demanded by the court, but far exceeding it. I also showed how ridiculous was the contention that the wee piece of gauze in a wound which must suppurate until it closed could hurt the patient and induce any grave sequelae.

There were manifestly three things to be considered by the jury:

1. Did Dr. Hunner treat the patient properly? Did he do her any harm?

2. If his assistant introduced the tiny drain, was Dr. Hunner responsible for his act?

3. If these points were decided against Dr. Hunner, what damages should be assessed?

All the men who knew, the experts of real experience, as contrasted with the lonely pseudo-expert, testified emphatically that Dr. Hunner had treated the patient with the utmost skill and that she had in no way suffered, but was in every way benefited by the treatment.

The second point which the plaintiff sought to establish, namely, that the surgeon is responsible for all that his resident does, although he may have no control over his appointment to the hospital, was decided by the judge in the affirmative on the basis of a law sixty years old, framed even before the birth of modern surgery.

The third point—damages—naturally fell out of consideration if the first—no harm done—was decided in the doctor's favor.

In spite of the overwhelming testimony and of all the evidence and facts against the plaintiff's contention, the jury actually decided against Dr. Hunner and awarded $1,000 damages, a penalty of about $2,500, including court costs—this in the twentieth century in our enlightened land, with one of the best of judges, Judge Hemsler, on the bench, and a jury made up of men of exceptional character and intelligence. They simply did not understand the case, and acted on their sympathies. The whole court seemed muddled, like an infant-school solving a difficult mathematical problem. That which was transparent to every surgeon, and the very A B C of his daily practice, was to them a mysterious and impenetrable darkness. So, swayed by their sympathy, they gave the verdict in favor of the plaintiff.

It is evident that the best interests of the medical profession and therefore of the public are gravely menaced by such subversive threatening and irrational legal processes. The first thought of the newspapers has been that perhaps men of eminence will be less willing in the future to serve the poor; but the first effect is not here. I have already reaped the first crop of this suit in my own office. A patient whom I recently relieved from a life suffering by taking out a ureteral calculus casually remarked to an associate as she left for her home, "It is well that Dr. Kelly succeeded, for had he failed my husband would have been ready to sue him."

Another patient cured of a cancer of the face by radium developed a trifling transitory erythema; he at once forgot the inestimable service rendered at a nominal cost and assumed a harsh, bitter, criticizing tone. Another referred to me with a recurrent cancer of the rectum for radium treatment, who is probably recovering, under the best care I can give him, became violently incensed and threatening because of some fancied neglect.

In other words, such trials, with the publicity attending them, circulating unjust and distorted criticisms of the work of our best men, and implying that carelessness and neglect of patients is habitual, tend to influence the public against the profession and to make patients eager to search for fancied wrongs and overanxious to assess large damages for imaginary neglect.

I cannot see any solution of this distressing question which will not fall crushingly on the public. I cannot conceive of a greater misfortune to a community than that the administration of justice should come to depend, not on principles of righteousness, not on a rational determination of right or wrong in each individual case, but rather on the sharpness of the wits of lawyers contending for a prize and determined to have it by fair means or foul.

We see here the outcome of our nation-wide utter neglect in attending to the ethics and the morals of the communities in which we live, the natural sequence of being too busy with the subordinate questions of "science" and making money to think of the infinitely more important questions of ethics.

HOWARD A. KELLY, M.D., Baltimore.

The Grant Method in the Surgery of Epithelioma of the Lip

To the Editor:—In THE JOURNAL (Feb. 15, 1913, p. 507) is an article on "Operation for Epithelioma of the Lower Lip," by Dr. H. A. L. Ryfkogel of San Francisco. The operation is described as not being new, but as having been developed in Dr. Ryfkogel's service by combining the methods of other operators.

Kindly permit me to say that the diagrams and descriptive formation of flaps are a reproduction of my original operation for "Cancer of the Mouth," first published in the *Medical Record*, New York, March, 1899, and more fully elaborated, illustrated and read before the Section on Surgery of the American Medical Association in July, 1905, at Portland, Ore. It was published in THE JOURNAL, Sept. 30, 1905, p. 962. It is of course possible that Dr. Ryfkogel never read this article.

W. W. GRANT, M.D., Denver.

A proof of the above was sent to Dr. Ryfkogel, who replies:

To the Editor:—As any one can readily verify by looking at Dr. Grant's and my articles on epithelioma of the lip, his statement that my diagrams and reading matter are reproductions of his, are untrue. In fact they bear no more resemblance to his than they do to Stewart's, Dieffenbach's and others.' I have read Dr. Grant's article and have performed his operation. My objection to it was that it made a lip too tightly stretched; in fact, he himself mentions the frequent necessity of using tension sutures. In the operation performed in my clinic, even when the whole lip is removed, the flaps fall loosely into place without tension. Dr. Grant's flaps are triangular and are swung into place; mine are quadrilateral and are slid together. I should like again to emphasize the fact that there is nothing new in the operation described by me, but that it is rather an assembly of several technics which has given us so much satisfaction that we thought it worth recording. The same statement can also be made of Dr. Grant's operation. For other differences between the two articles I must refer the reader to the original communication.

H. A. L. RYFKOGEL, M.D., San Francisco.

A proof of the above was sent to Dr. Grant, who replies:

To the Editor:—In reply to Dr. Ryfkogel's note, kindly permit me to quote from my article as formerly published in THE JOURNAL, as follows:

"When half or more of the entire lip is removed, I am in the habit of perfecting and completing the operation by making an incision from each angle of the mouth backward and slightly downward half to one inch in length, down to the buccal mucous membrane, and then separating the latter from overlying tissues above, below and posteriorly to the extent of half an inch. The lip above and below is now beveled from the inner border in order to conform to natural conditions and also to make it easier to cover. The mucous membrane is now divided in the middle line and the flaps united to the skin by *one continuous suture of chromicized catgut.*"

As to tension, my language in the article is as follows: "if the tension is great or considerable from the amount of tissue excised, I am in the habit of inserting one mattress suture." There is not a line as to the "frequent necessity" of using tension sutures.

W. W. GRANT, M.D., Denver.

A Method of Making Buttermilk

To the Editor:—The use of buttermilk for several days or a week, to the exclusion of sweet milk, eggs or other food, is a simple and safe method of relieving the stomach which has proved useful and effective in many cases, especially when large quantities of sweet milk have been taken for a long period. It will be possible to return then to the former diet without difficulty.

The physician is of [illegible] he buttermil[illegible] y be
obtained. When a [illegible] ity is [illegible]
from a dairy, it [illegible] now [illegible]
small glass [illegible] eit.
4 quarts, for [illegible] new

allowing it to thicken in a warm room for twenty-four hours and then churning for from five to eight minutes you will have, after removing the small amount of butter which accumulates on the dasher, a fresh, evenly distributed, curdy buttermilk which is palatable and much superior to the artificial product made from lactic acid tablets.

Alexander Armstrong, M.D., White Haven, Pa.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FRUITOLA AND TRAXO

To the Editor:—Could you send me any information concerning a "gall-stone cure" named "Traxo," which I believe is manufactured in California? A. M., Texas

Answer.—Our correspondent doubtless refers to a nostrum exploited in connection with the fraud, "Fruitola," both of which were exposed in The Journal, Sept. 24, 1910. The matter has been reprinted in a pamphlet entitled "Fake Gall-Stone Cures" (price 4 cents) and also appears in the second edition of "Nostrums and Quackery." Fruitola and Traxo are both put up by the Pinus Medicine Co., Los Angeles: Fruitola as a "cure" for gall-stones, and Traxo as a "tonic." Fruitola, as stated in The Journal article, consists of two parts, a liquid and a powder. The liquid was found to be essentially olive oil flavored with anise; the powders were found to be Seidlitz powders. The state chemists of Kansas analyzed Traxo and reported that in addition to 20 per cent. of alcohol it consisted mainly of taraxacum (dandelion) and cascara with a small amount of chloroform and soluble alkaloid.

INFORMATION CONCERNING A COPPER-MINING COMPANY

To the Editor:—Can you give me any information in regard to Haynes Copper Company, 82 Beaver Street, New York, or refer me to any one who can? The stuff, of course, has all the earmarks of a fake, and I wish to save a medical friend from making a foolish investment. W. P. Burdick, M.D., Kane, Pa.

Answer.—The following is digested from an article in the "Copper Handbook." This book is considered fairly reliable, but one may well bear in mind that it probably gives the best possible version of the matter.

The main office of the company is 301 Columbia Trust Building, Los Angeles: C. B. Stranahan, manager. The company was organized in 1906 under the laws of the state of Arizona as successor to the Jerome Mines Development Co., with a capital of 2,000,000 shares, $1 per share. The latest statistics given are of 1910: they have eight veins patented—an area of 160 acres; there are various veins carrying a variety of ores estimated by the company to average 6.2 per cent. copper, 3 ounces silver and $1.60 gold per ton. Sulphids were found about July, 1910, and the management hopes to find a continuation of the United Verde ore bodies. Considerable drilling and construction have been done. The mine is wet, causing occasional interruptions before the installation of the triplex pump. There are twelve buildings on the property.

SERODIAGNOSIS OF SYPHILIS—WORKS ON THE DUCTLESS GLANDS AND ON IMMUNITY

To the Editor:—1. Please tell me where I can obtain material for the Noguchi skin test for syphilis. 2. Please refer me to some works on the ductless glands and on immunity.

M. B. McCausland, M.D., Imlay City, Mich.

Answer.—1. The Noguchi test for syphilis is supplied by H. K. Mulford Co., Philadelphia. See N. N. R., 1913, p. 237.

2. The following are good books on these subjects:

Vincent, S.: Internal Secretions and the Ductless Glands, Longmans, Greene & Co., New York, price $3.50.

Fraser, E. T.: A Manual of Immunity, Macmillan Co., New York, price $1.25.

Simon, C. E.: Study of Infection and Immunity, Lea & Febiger, Philadelphia, price, $3.25.

Ricketts, H. T.: Infection, Immunity and Serum-Therapy, American Medical Association, price, $2.

BEEBE'S THYROID SERUM

Dr. A. T. Downing, Littleton, N. H.: We summarized the facts March 23, 1912, p. 880.

DOUBTFUL CAUSE OF DEATH OF INFANT

To the Editor:—I wish to report a recent case of an infant's death. It seems extremely interesting to me as I cannot find anything in the literature of a similar nature, while several physicians with whom I have discussed the case are likewise agreed. The family history of the father and the mother was possibly tuberculous; otherwise negative. The mother, a primipara aged 28, apparently in good health and of ruddy complexion, went through pregnancy with nothing to indicate any deviation from the normal, and was delivered at full term (low forceps left occipito-anterior) of an apparently normal girl baby weighing 8 pounds. Both mother and child did nicely until the morning of the fifth day, when the baby was found dead in its crib about an hour after nursing. There was nothing to indicate the cause of death. Autopsy showed the small intestine in a condition of complete collapse and the large intestine enormously distended. Macroscopically the peritoneal surface showed small yellowish-white spots dotting the greater part of the large bowel. The mucous membrane showed nothing abnormal macroscopically. A section of the large bowel (about 6 inches long) was sent to a laboratory with a returned diagnosis of congenital absence of follicles of the large intestine, making it incompatible with extra-uterine life.

I would like to hear from some one who has had or heard of such a case. It might be well to add that the patient was in the hospital and that the baby nursed its mother with apparent satisfaction. H. E. Thompson, M.D., Bethlehem, N. H.

Answer.—We are of the opinion that the condition noted should not be regarded as the cause of death.

NO AUTOMOBILE NUMBER THIS YEAR

To the Editor:—Will there be an Automobile Number this year?

J. E. Asay, M.D., Rock Island, Ill.

Answer.—No.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.
California: San Francisco, April 1. Sec., Dr. Charles B. Pinkham, 929 Butler Building.
Colorado: 612 Empire Building, Denver, April 1. Sec., Dr. David A. Strickler.
Idaho: Boise, April 1. Sec., Dr. O. J. Allen, Bellevue.
Illinois: Armory Battery B, Chicago, April 29-May 1. Sec., Dr. James A. Egan, Springfield.
Minnesota: State University, Minneapolis, April 1-4. Sec., Dr. Thomas S. McDavitt, Lowry Building, St. Paul.
Montana: The Capitol, Helena, April 1. Sec., Dr. W. C. Riddell.
New Mexico: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.
Oklahoma: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.
Rhode Island: State House, Providence, April 3. Sec., Dr. Gardner T. Swarts.
West Virginia: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

A PREMEDICAL COLLEGE YEAR

Recognizing the need of a better training for those who are to study medicine than that furnished by the usual high school, the Council on Medical Education of the American Medical Association, in 1904, prepared what was termed an "ideal standard" which suggested, that, in addition to an accredited four-year high-school course, a year in physics, chemistry and biology and a reading knowledge of a modern language, preferably German or French, be made the minimum requirement for admission to medical colleges. It was understood that this additional year's work might be taken either in a college of liberal arts or in a preliminary year given by the medical school itself. At the annual meeting of the American Medical Association at Atlantic City in June, 1912, the House of Delegates adopted a recommendation instructing the Council on Medical Education to include in Class A (among acceptable colleges) after Jan. 1, 1914, only medical schools which require for admission not less than one year of college credits in chemistry, biology, physics and a modern language.

At a regular meeting held in Chicago, Feb. 23, 1913, the Council on Medical Education adopted a resolution that the work of the preliminary year should correspond in excellence and in content at least with the work in the freshman year in standard colleges and universities. A subcommittee was appointed to prepare a detailed outline of the minimum requirements for the preliminary year's work.

At its annual meeting held Feb. 26, 1913, the Association of American Medical Colleges appointed a committee, with power to act, to cooperate with the committee of the Council on Medical Education in the preparation of an outline of minimum requirements for the preliminary year's work, thereby going on record as favoring this advance requirement.

At a meeting of the subcommittee of the Council on Medical Education Saturday, March 22, the following minimum requirements for admission to the proposed preliminary college year were adopted:

ADMISSION TO THE PRELIMINARY COLLEGE YEAR

A. For admission to the preliminary college year, students must have completed a four-year course of at least fourteen *units in a standard* accredited high school, or have its equivalent as demonstrated by an examination, and a transcript of the student's work should be secured directly from the principal of the high school by the college authorities and kept on file.

B. The required and elective subjects for which credits for admission to the preliminary college year may be accepted are shown in the following schedule:

SCHEDULE OF SUBJECTS OFFERED IN ACADEMIC AND SECONDARY SCHOOLS, CREDITS IN WHICH ARE ACCEPTABLE FOR ENTRANCE TO THE PRELIMINARY COLLEGE YEAR LEADING TO THE MEDICAL COURSES

SUBJECTS.	UNITS.	REQUIRED.	ELECTIVE.
ENGLISH			
READING AND PRACTICE	2	2	...
Study and Practice	1	...	1
MATHEMATICS			
ALGEBRA TO QUADRATICS	1	1	...
Algebra (Quadratic Equations, Binomial Theorem and Progressions)	½	...	½
PLANE GEOMETRY	1	1	...
Solid Geometry	½	...	½
Trigonometry	½	...	½
LATIN			
GRAMMAR AND COMPOSITION	1	1	...
CAESAR	1	1	...
Cicero	1	...	1
Virgil	1	...	1
Cornelius Nepos	1	...	1
Greek			
Grammar and Composition	1	*	1
Xenophon	1	...	1
Homer	1	...	1
GERMAN (OR FRENCH)			
ELEMENTARY	2	2	...
Intermediate	1	...	1
French (or German)			
Elementary	2	**	2
Intermediate	1	...	2
Spanish			
Elementary	2	...	2
Scandinavian			
Elementary	2	...	2
HISTORY			
AMERICAN HISTORY AND CIVIL GOVERNMENT	1	1	...
Greek and Roman History	1	...	1
Medieval and Modern History	1	...	1
English History	1	...	1
Science †			
Botany and Zoology, each	1	...	1
or Biology	1	...	1
Chemistry	1	...	1
Physics	1	...	1
Physiography	½	...	½
Physiology	½	...	½
Agriculture	1	...	1
Drawing	1	...	1
Manual Training	1	...	1
Domestic Science	1	...	1
Music			
Appreciation or Harmony	1	...	1
Total	38½	9	29½

A *unit* is the credit value of at least 36 weeks' work of 4 or 5 recitation periods per week, each recitation period to be of not less than 40 minutes. In other words, a unit represents a year's study in any subject in a secondary school constituting approximately a quarter of a full year's work. A satisfactory year's work in any subject cannot be accomplished under ordinary circumstances in less than 120 sixty-minute hours, or their equivalent.

Required Branches: Of the 14 units of high-school work the subjects in capitals aggregating 9 units are required. Other work to the amount of at least 5 units may be made up from any of the other subjects of the above schedule.

* Two units of Greek may be substituted for the two required units of Latin.

** Two units of French may be substituted for the two required units of German.

† Credentials of each science course must include evidence of laboratory work.

The Preliminary College Year

At a joint meeting of the committees representing the Ass ciation of American Medical Colleges and the Council on Me ical Education of the American Medical Association held Mar 22, 1913, and with the advice of Dr. Kendric C. Babcock, high education expert of the United States Bureau of Education, t following requirements were adopted for the preliminary c lege year:

A. *The preliminary college year shall extend through o* college session of at least thirty-two weeks of actual instru tion, including final examinations.

B. *In excellence of teaching and in content, the work of th* preliminary college year shall be equal to the work done in t freshman year in standard colleges and universities.

C. This preliminary college year shall include courses physics, chemistry, biology and German or French, each cour to embrace at least eight semester hours of didactic and la *oratory work in each subject as shown in the following sche* ule, provided that a student may satisfy the requirement physics in presenting one unit of high-school physics and co pleting a half year of college physics which continues and do not duplicate the work done in the high school:

SCHEDULE

Subject.	Lectures or Recitations Per Week	Laboratory Periods * Per Week	Total Hours Per Semester	Total H Per Ye
Physics, 1...	2	2	4	8
Chemistry, 1.	2	2	4	8
Biology, 1 ..	2 or 3	2 or 1	4	8
German or French, 2..	4 or 3	....	4 or 3	8 or 6
Totals....	10	6 or 5	16 or 15	32 or 3

* *Each laboratory period must extend over at least two hours.*

D. In medical colleges planning to give the work of t *preliminary year, provision should be made for full-time expe* teachers in the various subjects. Sufficient equipment should provided to enable the students to do the work intelligently in amount such as will compare favorably with the equipme for these courses in standard colleges and universities.

E. It should be remembered that the chief object of the wo of the preliminary college year is to provide the student with training that will enable him to enter more readily and intel gently on the study of the fundamental medical sciences in t medical school.

Illinois September Report

Dr. James A. Egan, secretary of the Illinois State Board Health, reports the written examination held at Chicago, Se 24-26, 1912. *The number of subjects examined in was 16; tot* number of questions asked, 100; percentage required to pa 75. The total number of candidates examined was 154, whom 112 passed and 41 failed. One candidate did not co plete the examination. The following colleges were represente

College PASSED	Grad. Year	Examin Total N
College of P. & S., San Francisco	(1903)	1
George Washington University	(1911) (1912)	2
Bennett Medical College	(1910) (1911, 2) (1912, 18)	21
Chicago Coll. of Med. and Surg.	*(1911, 3) (1912, 19)*	22
Chicago Homeopathic Medical College	(1892)	1
Hahnemann Medical College and Hospital	(1912)	4
Jenner Medical College	(1912)	5
Northwestern Univ. Med. School	(1903) (1911) (1912, 3)	5
Reliance Medical College	(1911)	2
Rush Medical College	(1911) (1912, 9)	10
College of P. and S., Chicago	(1911, 3) (1912, 16)	19
University of Louisville	(1912)	1
Louisville Medical College	(1896)	1
Tulane University of Louisiana	(1906)	1
Johns Hopkins University	(1912)	1
Harvard Medical School	(1911)	1
Tufts College Medical School	(1903)	1
St. Louis University	(1912)	1
American Medical College, St. Louis	(1911) (1912, 4)	5
Barnes Medical College	(1911)	1
University of Buffalo	(1912)	1
Jefferson Medical College	(1912)	1
University of Pennsylvania	(1869)	1
Milwaukee Medical College	(1912)	2
Trinity University, Canada	(1897)	1
University of Toronto	(1911)	1

FAILED

Northwestern University Medical School	(1912)	1
College of P. & S., Chicago	(1911) (1912, 3)	4
Chicago College of Medicine and Surgery	(1910) (1911, 3) (1912, 4)	8
Bennett Medical College	(1911) (1912, 5)	6
College of Medicine and Surgery, Physiomedical, Chicago	(1908) (1909) (1910)	3
Hahnemann Medical College and Hospital, Chicago,	(1893) (1910) (1912, 4)	6
Hering Medical College	(1912)	2
Illinois Medical College	(1911)	1
Jenner Medical College	(1912)	1
Reliance Medical College	(1911)	2
American Medical College, St. Louis	(1912)	1
Barnes Medical College	(1912)	1
St. Louis Coll. of P. and S.	(1908) (1910, 2)	3
National University, Greece	(1908)	1
University of Modena, Italy	(1903)	1

Ohio December Examination Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports the written and oral examination held at Columbus, Dec. 10-12, 1912. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 20, of whom 16 passed and 3 failed. For one candidate the decision is pending. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1912)	84.2, 87.6
Cleveland College of P. and S.	(1912)	75.8, 79.6, 81
Western Reserve University	(1912)	84.7
Cleveland-Pulte Medical College	(1912)	75.6, 78.9
Ohio-Miami Medical College	(1912)	77.1, 86.6
Starling-Ohio Medical College	(1912)	77.6
Toledo Medical College	(1912)	76.3
University of Pennsylvania	(1910) 89.4; (1911)	87.2
University of Toronto, Ontario	(1911)	83.1
Royal University of Naples, Italy	(1910)	78.1

FAILED

College	Year Grad.	Per Cent.
Harvard Medical School	(1910)	74.2
Ohio-Miami Medical College	(1912)	73
Eclectic Medical College, Cincinnati	(1911)	73.7

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE PRESENT LEGAL STATUS OF OSTEOPATHY

In THE JOURNAL[1] over three years ago, a summary of the situation then existing regarding osteopathy appeared as a part of the special matter on medical education. The situation has changed somewhat since that time, so that an up-to-date summary of the situation seems advisable, on account of many requests received for information on this point. The present time is particularly favorable for such a summary, as osteopathic legislation has apparently reached its high-water mark. Some form of regulation is now on the statute-books in forty-one of forty-nine jurisdictions, including the District of Columbia. All of this legislation has been enacted in the last twelve years, Connecticut, which in 1901 enacted a law creating a separate board of osteopathic examiners, being the first state to take action. The classification of states with reference to this subject naturally divides them into (1) those having laws authorizing a separate osteopathic board; (2) those having laws adding an osteopath to the membership of existing boards; (3) those with laws authorizing the existing board to examine and register osteopaths as such, and (4) those having no specific regulation on the subject.

1. The states which have established separate examining boards with the date of the passage of the law are twenty in number, being Connecticut, 1901; Arkansas, Michigan and Minnesota, 1903; Vermont, 1904; Tennessee, New Mexico, Montana, 1905; Idaho, Missouri and South Dakota, 1907; Louisiana, 1908; Georgia, North Dakota, Nebraska, Florida, 1909; California, 1910; New Hampshire and Pennsylvania, 1911, and Kansas, 1913.

2. The eleven states which amended the existing medical practice acts by including an osteopathic member on the state examining board are Iowa, 1902; Wisconsin, 1903; Kentucky, 1904; Indiana, 1905; New York, Oklahoma, Oregon, Texas, Utah, 1907; Washington, 1909, and Massachusetts, 1911.

3. In nine states osteopaths are examined and registered as such by the state board of medical examiners. These are South Carolina, 1904; Wyoming, 1905; Ohio, 1906; West Virginia and Delaware, 1907; North Carolina, 1909; New Jersey and Colorado, 1910; Virginia, 1911.

4. In seven states and the District of Columbia there is no specific regulation. These are Alabama, Arizona, Illinois (in which osteopaths are licensed by the state board of health under the drugless healers clause), Maine, Mississippi, Nevada and Rhode Island. In one state, Maryland, they are specifically exempt from the operation of the medical practice act.

Regarding the legal status of osteopathy in the courts, in the following states it has been declared to be the practice of medicine, either by statutory enactment or by judicial decision: Alabama, Arizona, California, Delaware, Indiana, Iowa, Kentucky, New York, Ohio, Texas, Utah, Virginia, West Virginia, Wisconsin and Wyoming. In the following states it has been specifically declared not to be the practice of medicine: Arkansas, Colorado, Connecticut, Georgia, Idaho, Illinois, Kansas, Louisiana, Michigan, Minnesota, Missouri, Montana, Nebraska, North Carolina, Pennsylvania, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee and Vermont. We have therefore the situation of osteopathy being the practice of medicine in fifteen states, while there are twenty-one states in which it is not.

LEGISLATIVE NOTES

COLORADO

Governor Ammons has signed the bill providing for registration of tuberculosis.

ILLINOIS

A bill, providing a bureau of child welfare, modeled after the federal Bureau of Child Welfare, has been introduced. It creates a child welfare commission of three members.

KANSAS

The governor has permitted the chiropractic bill to become a law without his signature and has signed a bill providing for a state board of osteopaths. He has also permitted a sterilization bill to become a law without his signature. The enactment of the chiropractic bill is the first definite result which has been secured by this cult, after four or five years of effort, Kansas being the only state in which such a measure has so far become a law.

WYOMING

The following bills have been passed and signed by the governor: a bill providing for the inspection and sanitation of any place where food products are to be handled, to be enforced by the state dairy, food and oil commissioner, and a bill regulating the sale of habit-forming drugs. This law prohibits the sale of such drugs to any person, except on prescription of a licensed practicing physician, such prescriptions not to be refilled, and to be open to inspection by the State Board of Pharmacy. Practitioners of medicine are forbidden to prescribe such drugs for any person not under their treatment. Legally qualified practitioners are permitted to prescribe in good faith not to exceed 4 grains of cocain, morphin or their derivatives within any consecutive periods of twenty-four hours, and not to exceed 24 grains of chloral. The osteopathic bill was killed in the senate.

The Best Sign of Bronchial Obstruction.—I regard loss of vocal fremitus over an area still resonant, or even tympanitic, as one of the earliest and best signs of bronchial obstruction—a wrinkle I got many years ago from my old teacher and friend, Dr. Glynn.—John Hill Abram in *Clin. Jour.*, London.

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[1] Aug. 14, 1909, p. 582

Book Notices

Digest of the Laws and Regulations in Force in the United States Relating to the Possession, Use, Sale and Manufacture of Poisons and Habit-Forming Drugs. By Martin I. Wilbert and Murray Galt Motter. Paper. Price, $0.25. Pp. 278. Public Health Bulletin No. 56. Washington; Superintendent of Documents, 1912.

Few of the recently issued government publications are destined to attract greater attention on the part of physicians and pharmacists than this bulletin. As a plea for greater efficiency, greater uniformity and greater simplicity in laws and regulations relating to the manufacture, sale and use of poisons and habit-forming drugs, it comes at an opportune time. No one can even casually review the tremendous number of laws reflected in this bulletin without appreciating that we are indeed a law-burdened and yet a lawless people. It is pointed out, for instance, that in many of the states the antinarcotic laws are so comprehensive that every retail druggist, and in some states practically every physician, would be subject to fine or imprisonment were an earnest attempt made to execute the legislation on the statute-books. In other states the laws are so burdened with exceptions and provisos as practically to nullify the evident intent of legislation to control the sale or use of potent or habit-forming drugs; and in all states, quite regardless of the efficiency of the state laws themselves, legislation is to a considerable extent inoperative because of the inability of state officials to control or even to learn of the extent to which the several proscribed drugs are being sent into the state.

In addition to the laws dealing directly with restrictions on the sale of poisons and narcotic drugs, this bulletin reviews those restricting the occurrence of poisons in foods and other articles of commerce and those relating to the practice of pharmacy and the standards for drugs. The nature and extent of the laws relating to occupational intoxications are indicated. In this connection it is perhaps not necessary to do more than suggest that there is probably no form of calamity that can be so readily prevented by a wise and efficient enforcement of law as the now all-too-numerous occurrence of fatal poisoning, either acute or chronic, due to the ingestion or the inhalation of poisonous substances. A table showing the comparative number of cases of suicide and the number of deaths from acute and chronic poisoning, compiled from the mortality statistics of the census bureau, shows a total of more than 8,500 deaths from various forms of poison reported for the year 1910 alone. Even this comparatively large number is merely a fraction of all the deaths due directly or indirectly to the use of poisons in one form or another, but should suffice to demonstrate the immediate need for a more practical solution of the question of legislation relating to the manufacture, use and sale of poisons of all kinds. An earnest and consistent effort should be made to bring the laws now on the statute-books of the several states into accord so as to provide reasonable but not directly burdensome restrictions on the manufacture, sale and use of all drugs that are in any way dangerous to human life. This bulletin should prove of value to physicians, pharmacists, manufacturers and officials entrusted with the enforcement of the existing laws.

The Chemic Problem in Nutrition (Magnesium Infiltration). A Sketch of the Causative Factors in Disorders of the Nutrition as Related to Diseases of the Nervous System. By John Aulde, M.D., Demonstrator of Physical Diagnosis and Clinical Medicine, Medico-Chirurgical College, Philadelphia. Cloth. Price, $3. Pp. 410, with 4 illustrations. Philadelphia: John Aulde, M.D., 1305 Arch St., 1912.

We would hesitate to furnish space for a reference to this hodgepodge of fact and ridiculous fancy, jumbled together into the semblance of serious statement, were not the title sufficiently misleading to attract some unsuspecting reader whom we hope hereby to disillusionize. "Magnesium infiltration" is presented as the unseen, unrecognized "insidious ailment" which "affects the infant in arms as well as the octogenarian, the factory operative and the millionaire," etc. "It secures entrance to every sick-room, to every hospital," etc., etc. A few quotations will suffice to exemplify the sort of pseudoscience perpetrated in the guise of a legitimate treatise, and make further comment unnecessary. "Magnesium infiltration may be defined as an abnormal condition in which the cellular structures are surcharged with magnesium, with coincident depletion of the lime content" (p. 4). "Magnesium infiltration is essentially a disorder of the nervous system. Its development depends on various conditions. Thus, it may appear as the actual disease, as in neuritis, neuralgia, angina pectoris, locomotor ataxia, arteriosclerosis, or whenever the nerve-supply is surcharged with magnesium—effecting insulation, by chemic transformation" (p. 8). "Bearing in mind that this condition will change the capacity for imbibition (absorption), lead to a disturbance in the structure, and further, that it will interfere with the uninterrupted transmission of nerve impulses, the magnesium infiltration (deposits), acting as a resistance coil to the electric current—which supplies the energy for such transmission—the phenomena attending bowel troubles in children will be readily understood" (p. 9). Elsewhere we are told that "magnesium oxid is produced within the body by the action of oxidase on magnesium salts" (p. 44); and again that "treatment should be directed to reestablish the normal physiologic equilibrium as regards alkalescence, which would thus prevent nerves from becoming 'electroplated' with magnesium oxid" (p. 44). Enough of a "system" which includes everything from jaundice to insanity, old age to tonsillitis in one scheme! Huxley once wrote that science commits suicide the moment it adopts a creed.

Eighteenth Annual Report of the Craig Colony for Epileptics, Sonyea, Livingston County, N. Y. Paper. 1912.

This report of the oldest and most important of the public institutions for epileptics reveals many shortcomings in the way of buildings and equipment in the institution, but is a highly interesting document in that the pathologist's report furnishes considerable valuable information on which to base further study of the etiology of epilepsy. While the statistics of the colony in regard to recovery do not seem to be encouraging, the pathologist's report largely explains the reason for this. Notable among the findings are that a considerable percentage of epileptics have various congenital deformities or developmental defects, not, however, conforming to any particular classification; that various forms of encephalitis bearing a relation, perhaps, to the infectious diseases are frequently found; that constipation or intestinal stasis with consequent probable intestinal toxemia constantly obtrudes itself on the attention; that nephritic changes are present in a large number of cases, due probably to heightened blood-pressure and congestion during attacks, it being found that albuminuria accompanies these attacks, and in case of death during or immediately following an attack intense congestion of the kidneys is always found; the brain atrophies of various regions as well as internal hydrocephalus are frequently found and also meningeal adhesions and thickenings, but neither these nor the tumors found could be ascertained to bear any constant relation to the epilepsy. The report has numerous illustrations of the colony and of a number of brain specimens.

The Hunterian Lectures on Color-Vision and Color-Blindness. Delivered before the Royal College of Surgeons of England in February, 1911. By Prof. F. W. Edridge-Green, M.D., F.R.C.S. Cloth. Price, $1.50 net. Pp. 76. New York: Paul B. Hoeber, 1912.

For many years Edridge-Green has been the recognized English authority on color-vision; he has probably devised the most accurate and most practical tests for the detection of color-blindness that we have. This little volume is the substance of two lectures before the Royal College of Surgeons last year. The first is an exposition of the author's well-known theories of color-vision and color-blindness, and contains a number of references to his other writings on these subjects. The paragraphs on the "evolution of the color-sense" are interesting and form a good foundation for what follows on the "facts of color-blindness." The second lecture is devoted to the detection of color-blindness, and contains descriptions and illustrations of the author's lantern, his so-called "classification test," his pocket test, and color-perception spectrometer.

A TREATISE ON DISEASES OF THE HAIR. By George Thomas Jackson, M.D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, and Charles Wood McMurtry, M.D., Instructor in Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University. Cloth. Price, $3.75 net. Pp. 366.

The first edition of Dr. Jackson's work on the diseases of the hair appeared in 1887, and since that time it has remained the fullest and best book on the subject. In fact, it has been the only complete treatise on the subject. The work before us, while a lineal descendant of Jackson's treatise, is put forth as a new work; and a new work it is. The diseases of the scalp and hair—cosmetic diseases though they are for the most part—have received the most exhaustive and painstaking investigation in the last twenty years. Under the leadership of Unna in Germany and Sabouraud in France, the subject has assumed a new meaning and a vastly increased interest. Sabouraud has made the subject of tinea one of the large topics in microbiology. In no treatise has the great amount of work in the mycotic diseases of the hair and scalp hitherto been collected into a compact available form, and if this new work had no other reason for existence, the part on the trichophyton diseases would make it valuable. In no other place, except Sabouraud's work in French, is there collected the knowledge on this topic. In addition to this, the work is equally complete on the other diseases of the hair and scalp; that as a whole it is satisfactory goes without saying from the previous editions. Dr. Jackson has made this field peculiarly his own, and in it no other dermatologist—at least among the English-speaking—approaches his authority. His book, giving as it does an authoritative and complete statement of the subject, constitutes a valuable service to the profession.

A CLINICAL MANUAL OF THE MALFORMATIONS AND CONGENITAL DISEASES OF THE FETUS. By Prof. Dr. R. Birnbaum, Chief Physician to the University Clinic for Women at Göttingen. Translated and Annotated by G. Blacker, M.D., B.S., F.R.C.P., Obstetric Physician to University College Hospital, London. Cloth. Price, $5. Pp. 379, with 66 illustrations. Philadelphia: P. Blakiston's Son & Co., 1912.

The author has collected information pertaining to malformations and some congenital diseases—anatomic, physiologic, pathologic and clinical—and made a book of it. Those congenital conditions, such as syphilis, which are fully dealt with in books on obstetrics, etc., are not included. Malformations are taken up in detail, as for instance, their causation and classification, the arrest of development of the whole embryonic rudiment, defective development of the spinal canal, brain, face, neck, thorax and its contents, digestive apparatus and other abdominal viscera, genitalia, bony skeleton, skin, etc. The final chapter discusses the legal rights of monsters. The book is well written and the illustrations, although not numerous, are well made. The many references to the literature cannot fail to prove of value. The book certainly fills a long-felt want because heretofore many books had to be consulted to gain even a small amount of the information which has been collected in this book.

SURGICAL OPERATIONS WITH LOCAL ANESTHESIA. By Arthur E. Hertzler, M.D., Surgeon to the Halstead Hospital, Halstead, Kan. Cloth. Price, $2 net. Pp. 205, with 104 illustrations. New York: Surgery Publishing Company, 1912.

The articles on this subject which appeared serially in a medical journal have been collected and form the basis of the text of this book. Local anesthesia is treated exhaustively, the author being an enthusiast on the subject. The needs of the general practitioner who must work without the advantages which hospital facilities and trained assistants afford are kept in mind, and the author records his own experiences, thus consistently assuming responsibility for the efficiency of the methods recommended. The general principles of local anesthesia, technic and drugs employed are fully discussed, and its application to various operations in which it may be employed is detailed. Numerous well-made illustrations add much to make this work not only interesting but also useful and valuable

A SYSTEM OF SURGERY. Edited by C. C. Choyce, B.Sc., M.D., F.R.C.S., Dean of, and Teacher of Operative Surgery in, the London School of Clinical Medicine (Post-Graduate). Pathologic Editor J. Martin Beattie, M.A., M.D., C.M., Professor of Bacteriology in the University of Liverpool and Bacteriologist to the City of Liverpool. In Three Volumes. Price, $21 net. Vol. I, pp. 957, with 250 illustrations. Vol. II, pp. 1105, with 375 illustrations. Cloth. Price, $7 a volume. New York: Funk & Wagnalls Co., 1912.

This book "is destined for the practitioner of surgery who desires to keep himself abreast of the most modern teaching, and for the senior student who aims at a sound and comprehensive knowledge of present-day surgery." The work is of a character to meet this demand. The absence of fads and the descriptions of intricate methods of treatment make the work of value to the student and the general practitioner. Volume I describes the various features of surgical bacteriology and pathology. The chapters on inflammation, on suppuration and on neoplasms are very good. Volume II describes the surgery of the different regions of the body. Among the chapters deserving commendation are those on carcinoma of the breast, anatomy and surgery of the tongue, the surgery of gastric and duodenal ulcers, and the chapter on hernia. That the modern attainments and advancements of surgery have not been neglected is evidenced by the description of such conditions as Hirschsprung's disease, the consideration of pancreatic surgery, and the treatment of diseases of the esophagus and esophagoscopy. The work is profusely and instructively illustrated. On the whole it is one that may be thoroughly recommended to those for whom it has been written.

NEW ASPECTS OF DIABETES. Pathology and Treatment. By Prof. Dr. Carl von Noorden, Professor of the First Medical Clinic, Vienna. Lectures Delivered at the New York Post-Graduate Medical School. Cloth. Price, $1.50. Pp. 160. New York: E. B. Treat & Co., 1912.

The lectures do not cover the whole field of diabetes, but emphasize particularly some of the phases on which our knowledge has been especially enriched by modern research. The action of the various causes leading to an increased production of sugar is well illustrated by a diagram. The author regards the nervous influences as acting by stimulation of the adrenals to an increased production of epinephrin, while the thyroid and hypophysis on the other hand are supposed to act by depressing the pancreas. The therapeutic principles are carefully stated and the author lays stress on the importance of abolishing glycosuria in mild cases. The book closes with a special chapter on acetonuria, which constituted another lecture delivered in St. Louis.

BACTERIA. By Dr. Max Schottelius. Translated by Staff-Surgeon Herbert Geoghegan, R. N. Second Edition. Cloth. Price, $3.50. Pp. 324, with 43 illustrations. New York: Oxford University Press, 1912.

This is a brief elementary statement in regard to the position of bacteria in the scheme of Nature together with general details as to bacteriologic investigations and their connection with disease. It will serve as a groundwork for the understanding of bacteria in disease. There is a chapter on immunity and one on protozoal organisms. The translator has apparently adhered so closely to the original German text that he has unnecessarily failed to transform it into easily readable English. The book is interesting, however, as a simple statement on the important subject of bacteriology.

A STUDENT'S MANUAL OF SURGICAL DIAGNOSIS. By George Emerson Brewer, M.D., Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University. Cloth. Price, $1. Pp. 40. New York: D. Appleton & Co., 1912.

This is a brief manual used by the author in teaching surgical diagnosis to undergraduates. Surgical affections are first grouped and charted under the four general heads of injuries, deformities, inflammations and new growths. After the affection has been assigned to one of the general groups further differentiation is aided by means of ten regional charts and two particular charts on ulcers and external hernias, respectively. Final diagnosis is reached mainly by exclusion. As an aid to students in class work the manual possesses considerable merit.

Military Hygiene and Sanitation. By Colonel Charles H. Melville, M.B., D.P.H., Royal Army Medical Corps. Cloth. Price, $3.50 net. Pp. 418, with illustrations. New York: Longmans, Green & Co., 1912.

This treatise is an elaboration of the lectures delivered by the author while professor of hygiene at the Royal Army Medical College. He has wisely not attempted to deal with all the problems of hygiene, but has selected those which are more likely to be encountered in time of war. The same applies to the discussion of the prevention of communicable diseases. The introductory chapter is one of the most valuable in the book as it not only is an introduction, but also gives a summary of information indispensable to every sanitary officer. The author then takes up the topics in the logical order, beginning with sanitary organizations, and the recruit, physical training, marching, food, the ration, water-supply, ventilation, disposal of waste matters, clothing, equipment, prevention of infectious diseases, and disinfection, and closes with a short chapter on sanitation of the battle-field. The appendixes give scales of field-service rations, tabulated statements of the comparative value, total food consumed, energy expended, ration scales and variations in weight in practice marches, and a table showing the emergency rations of the armies of the various nations of the world.

Sleep and the Sleepless. Simple Rules for Overcoming Insomnia. By Joseph Collins, M.D., Physician to the Neurological Institute of New York. Cloth. Price, $1 net. Pp. 129. New York: Sturgis & Walton Co., 1912.

In this little book Dr. Collins describes entertainingly for the insomniac some of the theories of sleep and the varieties of insomnia, the physical and mental causes of sleeplessness, and simple, rational methods of overcoming this distressing condition. He says that sleeplessness may become a habit and may be overcome by training just as one may improve the wind or the muscular development by exercise. In the treatment of insomnia, however, he does not confine himself to the acquirement of the sleep habit but writes sensibly on the various bodily conditions which induce sleeplessness, chief of which, perhaps, is indigestion in its various forms. Important in a book for laymen is the wise teaching of the author of the comparative uselessness of drugs for overcoming the conditions inducing insomnia and of the danger of hypnotic drugs in all forms. The simpler physical methods of treatment, including exercise, baths, judicious diet and the cultivation of a tranquil mind, are the things properly emphasized. The book is charmingly written.

The Care of the Skin in Health. By W. Allan Jamieson, M.D., F.R.C.P.E. Cloth. Price, $1. Pp. 109. New York: Oxford University Press, 1912.

It has been proposed to measure the civilization of a community by the amount of soap which it uses. The present work is iconoclastic in this respect. The author, who is a dermatologist, has given a plain account of the structure of the skin and hair, and good directions for their ordinary care. He discountenances the use of soap and recommends daily friction and massage of the skin by means of a roller belt or massage glove. The condemnation of soap will seem heretical to many, but the author asserts that the alkali set free robs the skin of its natural oil greatly to its detriment. Good directions are given for the care of the hair and nails.

Einführung in die moderne Kinderheilkunde. Ein Lehrbuch für Studierende und Aerzte. Von Dr. B. Salge, Professor der Kinderheilkunde in Freiburg i. B. Third Edition. Cloth. Price, 9 marks. Pp. 392, with 15 illustrations. Berlin: Julius Springer, 1912.

This is not intended to be "an exhaustive text-book, or a compend, or least of all a compilation," but "an introduction for practitioners and students to the methods and point of view (Art der Auffassung) of modern pediatrics." That it has well fulfilled this purpose and has found for itself a useful niche among so many good books on diseases of children is evidenced by the fact that three editions have appeared in less than as many years. The author has the happy faculty of being concise, without showing evident effort to be brief.

Medicolegal

Requirements as to Having and Recording Licenses—Violation of Statute by Chiropractics

(State vs. Zechman (Ia.), 138 N. W. R. 387)

The Supreme Court of Iowa affirms the conviction of two defendants, separately indicted. The court says that it was complained that the indictments charged a failure to file a license with the county recorder of Polk County, without any allegation that the defendant was a resident of that county, and that the trial judge instructed the jury in each case that the practice of medicine in Polk County by the defendant without recording a license in that county would constitute a crime, although there was no allegation or proof that the defendant was a resident of that county. The construction of the statute relied on for the defendants was unquestionably correct, for it is provided in Section 2577 of the code that the certificate of license granted by the state board of examiners shall be filed for record "in the office of the recorder of the county in which he (the person licensed to practice) resides," and that "the same record must be made of the certificate in any county to which the holder may remove and in which he proposes to practice." Plainly, under these statutory provisions, a practitioner who has procured the proper certificate or license, and has had it recorded in the county of his residence, is entitled to practice in any county in the state, unless he is an itinerant physician as described in Section 2581 of the code; and he is required to have it recorded in another county only in the event of a change of residence.

But the court thinks that any prejudice to the defendants from the error in the instructions to the jury in the matter here referred to was clearly negatived by the record. The indictments sufficiently charged the defendants with practicing in Polk County without having a certificate from the proper authorities so to practice. If the defendants did not have such certificates, then their practice in Polk County or any other county in the state was unlawful without regard to the filing of a certificate in Polk County or any other county: for, if the defendants did not have certificates, no such certificates could be filed anywhere. The charge of practicing without having procured certificates was fully made out in the indictment, and the additional charge of failure to file with the recorder of Polk County was in that respect surplusage.

It appeared, too, from the record that the defendants had no certificates whatever from the board of medical examiners of the state. They were, therefore, not entitled to practice medicine in any county of the state, and the county of residence was necessarily immaterial. The jurors could not have possibly predicated their verdicts on the failure of the defendants to record certificates in the proper county. They could not, therefore, complain that, with reference to the recording of certificates which confessedly they never had, the jurors were improperly instructed.

There was also complaint that the jurors were improperly instructed as to what constitutes a practice of medicine without a certificate as provided by the statute, particularly when they were told that the defendants might be convicted on a finding that without certificates they "did publicly profess to cure or heal" or did devote themselves to and employ "means of curing and healing and of alleviating pain," as also that the defendants might be found guilty if it appeared that they "performed any services in a professional capacity in attempting to cure or heal or alleviate pain in those who applied" to them for treatment. The complaint in this respect was that persons, not physicians, might "devote themselves to curing, healing and alleviating pain" without any violation of the statute. And it was suggested that a nurse or a mother of an infant is not guilty of the illegal practice of medicine without a license, although devoted "to curing, healing and alleviating pain." Now it must be confessed that in using the language complained of the judge did not accurately state the provisions of the statute, for the court does not find in the statute any specific reference to the act of devoting one's self to and employing means of "curing and healing and of alleviating pain." It may well be suggested, however, that neither a professional nurse nor the mother of an infant devotes himself or herself to the employment of means of curing and healing and of alleviating pain.

But, however this may be, the record in this case showed, without any possible ground of controversy, that the defendants professed to be chiropractics, maintaining an office in Polk County, holding themselves out to treat and treating patients for disease, with the purpose of curing and healing, holding diplomas from a chiropractic school; and that they did so without having procured certificates from the state board of medical examiners. In view of these undisputed facts, it is plain that even in devoting themselves to and employing means of curing and healing and of alleviating pain without licenses they violated the statute. While, therefore, the language used by the judge, as above indicated, was in some respects inapt, it could not possibly have misled the jury into the error of finding guilt without proof beyond a reasonable doubt that the defendants either professed to be physicians, or made a practice of prescribing and furnishing medicine for the sick, or publicly pretended to cure or heal.

The contention in argument that one who advertises and holds himself out as a chiropractic is not within the provision of the statute unless he actually undertakes in specific cases to cure and heal is not well founded. The statute applies equally to those who profess to be physicians and assume the duties of such profession and publicly profess to cure or heal, and to those who make a practice of prescribing for the sick. That the defendants did make a practice of prescribing their method of treatment for sick persons appeared from their own testimony; but, whether they did so or not, if they held themselves out as publicly professing to cure or heal, they were required to have certificates.

When Masseurs Liable for Practice of Medicine—Receiving Payment Indirectly—"Physician" and "Doctor" Synonymous

(Milling vs. State (Tex.), 150 S. W. R. 434)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Milling of unlawfully practicing medicine, for which the penalty was fixed at a fine of $50 and twenty minutes in jail. The court says that it was not necessary for the indictment to allege that the treatment he practiced was not within the particular sphere of his labors as masseur, and to negative that he did not publicly represent himself as a masseur. The issue in this case was sharply drawn. The state alleged and proved that the defendant practiced on human beings and treated them for disease and disorder as a doctor or physician and charged indirectly therefor without procuring and having registered a license therefor. The defendant claimed that he did not so practice, but that he practiced simply and solely as a masseur, so advertising himself.

It was entirely proper to instruct the jury that masseurs in their particular sphere of labor who publicly represent themselves as such are exempt from the law requiring a certificate of their authority to be recorded before practicing that art, but that if, notwithstanding he so represents himself as a masseur, he undertakes to cure diseases for pay, and represents himself as able to cure diseases in that manner, he could not do so legally without the proper certificate registered in the clerk's office, etc. In other words, he could not hold himself out as a masseur, claiming to treat diseases without pay, and as a matter of fact treat human beings for disease and disorder as a doctor and indirectly charge them therefor, without a certificate registered, etc.

The jury were also correctly instructed that if they found from the evidence that the party alleged to have been treated by the defendant paid him $2 for board and lodging, and did not pay him that sum for treatment of disease of the body, to find him not guilty; but, if they should find beyond a reasonable doubt that the $2 was in reality paid, and received by the defendant as payment, for a treatment of disease, and that the understanding between them was, if there was any understanding, that the $2 paid for board and lodging was a mere subterfuge to evade the law, and they further found that every other allegation in the indictment was fully sustained by the proof, then they should find the defendant guilty. And the proof clearly showed, or authorized the jury to find and believe, that, notwithstanding he advertised himself as a masseur and to treat diseases free of charge, as a matter of fact, the defendant charged for treating diseases as a doctor under the guise and sham of charging a hotel bill, and that, instead of treating simply and solely as a masseur without pay, he treated diseases continuously and received pay therefor.

There was nothing in the contention that the verdict of the jury was unsupported by the evidence in that the allegation was that the defendant treated a physical disease and disorder in the capacity of a physician or doctor, or both, being in the disjunctive and not in the conjunctive. "Physician" and "doctor" are synonymous, and are so understood and used, and the allegation in the indictment where these two words were used could not be considered as disjunctive allegations. Nor could a distinction be made between manipulations with the hands "over" and "upon" a person's body.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17-20

Alabama State Medical Association, Mobile, April 15-18.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
American Urological Association, Boston, April 15-17.
Association of American Physicians, Washington, May 6-7.
California State Medical Society, Oakland, April 15-17.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Georgia State Medical Association, Savannah, April 16-18.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.
Texas State Medical Association, San Antonio, May 6-8.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting held Feb. 5, 1913

The President, Dr. James C. Wilson, in the Chair

Thymus Death in the New-Born; Report of Case

Dr. Edward P. Davis: The patient was pregnant, near term and had had irregular bleeding for several days. She was delivered promptly by cesarean section, and her convalescence was uninterrupted. The child did well for twenty-four hours but died in spasm with dyspnea. During the life of the infant its neck and thoracic region presented nothing abnormal. Recent studies in relationships existing between the placenta and the thyroid gland suggest that the large thymus in the new-born must share in various disturbed conditions of maternal and fetal metabolism. In my case it is possible that the mother's hemorrhage had altered the condition of the fetal blood and in consequence produced alteration in the size and condition of the thymus. That the gland was enlarged before delivery is shown from the fact that the fetus was observed to make inspiratory movements of an unusual character before the membranes were opened. Evidently the disturbance of eventrating the uterus and compressing the lower segment to control hemorrhage was sufficient to influence the fetus. It is difficult in the present state of our knowledge to suggest measures for preventing thymus death. Attention to the mother's hygiene during pregnancy is certainly demanded. Delivery by cesarean section exposes the child to the least possible mechanical disturbance, and in this case no prolonged or vigorous efforts were made to establish respiration. A further study of the thymus from the point of view of toxins and serums may throw light on this obscure condition.

Dr. J. P. Crozer Griffith: The term "thymus death" is rather an unfortunate one because it does not always have the same meaning. Death undoubtedly may be due to pressure of the thymus gland on the trachea. The majority of so-called thymus deaths have been *sudden* deaths. I believe that such deaths are cardiac deaths. There is no anatomic proof of the occurrence of sudden congestion. The most generally accepted theory for these cases of sudden death is that the condition is a neurosis, toxic perhaps in origin, and that for some unknown cause, varying with the case, there is a sudden arrest of the heart's action.

Myocardial Hydrothorax

Dr. James M. Anders: The association of cardiac disease and unilateral hydrothorax is not rare. In thirteen out of my sixteen cases of hydrothorax due to myocardial changes, the condition was wholly on the right side throughout. In five of the sixteen cases, clear and convincing evidence of well-pronounced chronic interstitial nephritis was present. In nine cases the cardiac incompetency was caused by chronic myocarditis. Myocardial hydrothorax is especially apt to go unrecognized in cases in which external edema is absent, the severe dyspnea being attributed principally to so-called cardiac or cardiorenal asthma and pulmonary congestion. It is not uncommon to meet cases of myocardial insufficiency that simulate closely valvular disease, particularly mitral incompetency, with which may be associated a mild grade of stenosis. There is not obtainable, however, a clear history of acute articular rheumatism in chronic myocarditis, but commonly of one of the exciting factors of secondary dilatation of the heart, such as physical or mental overstrain, an intercurrent febrile affection and the like.

Treatment has reference to removal of transudate by tapping the chest and correction of the causative condition as far as possible by hygienic and medicinal means. It is futile, as a rule, to attempt to get rid of the transudate by the exhibition of digitalis and other cardiac stimulants without first withdrawal of the fluid by aspiration if it be considerable in amount. The myocardial insufficiency demands resort to remedies that will strengthen the heart muscle. Rest is the most valuable adjunct in the treatment of the cardiac dilatation to which the hydrothorax is due, but must be absolute and long continued. The use of saline laxatives carried to the point of rather active catharsis was of decided service in a few of my cases. In five instances of the series herewith reported a salt-poor diet was employed with favorable effect, reaccumulation of the transudate being thereby noticeably delayed.

DISCUSSION

Dr. Judson Daland: As the symptomatology is readily explained by the condition of the myocardium, the liquid in the pleura is overlooked because no physical examination is made. In my experience certain of these cases have not done well under the influence of digitalis, more especially if we have reason to believe there is degeneration of the myocardium. Strophanthus is more uniformly beneficial, provided the preparation is active. The tincture as ordinarily obtained is inert. In hypertension with myocardial inflammation or degeneration I have been unable to demonstrate that the hypertension has been permanently reduced by such doses of nitroglycerin as could be given with safety. Particularly important is it for us to bear always in mind the possibility emphasized by Dr. Anders that a latent unilateral hydrothorax may develop at any time during the course of myocardial inflammation or degeneration, and require early and prompt removal by the aspirator.

Dr. James Tyson: Whatever may be the more remote cause of non-inflammatory accumulations of fluid in the chest cavities, I believe they are practically due to cardiac weakness or obstruction to the onward movement of the blood or to both combined. The frequency of the invasion of the right chest as compared with the left might have been further illustrated by reference to the observations of the late Dr. J. Dutton Steele, who found that out of 100 cases 83 were double and 17 single, and that of the 83 double cases three-fourths were right-sided, and of the 17 single cases 10 were right-sided. I have learned that it is not well to wait before tapping for the effusion to become large if one is certain that it is present on one side or on the other.

Dr. Thomas McCrae: One possibility of error in the recognition of these cases lies in the fact that when the amount of fluid is not very large, the dulness is regarded as being due to increase in the size of the liver. The fluid may persist in these cases for long periods, and sometimes increases and decreases without any special change in the cardiac condition. This is particularly seen in patients who refuse tapping. In some cases the removal of a very small amount of fluid is followed by rapid absorption of the remainder.

Dr. J. M. Anders: My object in presenting this paper was to refer to the cases of hydrothorax in which there was no external dropsy at the onset and no valvular disease, and therefore little ground for suspecting the presence of fluid in the pleural sacs. I want to emphasize the fact that we should systematically examine the thorax in chronic myocarditis, independently of either valvular disease or chronic nephritis. I believe that right-sided hydrothorax of cardiac origin is more often due to myocardial disease than has been supposed by clinicians. I would lay special stress on the extreme latency of right-sided hydrothorax due to foregoing chronic myocarditis, and agree with Dr. McCrae and Dr. Tyson that we should do tapping early in the presence of a weak or dilated heart.

NEW YORK NEUROLOGICAL SOCIETY

Meeting held Feb. 4, 1913

The President, Dr. Smith Ely Jelliffe, in the Chair

Tumor of the Base of the Brain Immediately Behind the Hypophysis

Dr. H. Climenko: The patient, a girl aged 9, came under observation Nov. 10, 1912. Family history was unimportant. The patient was delivered instrumentally and breast-fed. Teething occurred in the seventh month; patient began to speak and walk when about a year old. She attended school until her present illness, and was of average intelligence. She had whooping-cough at 4, and measles a year later.

For the past twelve months the child had suffered from unusual thirst and occasional vomiting, although these symptoms were not of sufficient severity to interfere with her regular school work. Urine was negative. About six weeks ago she developed an alveolar abscess of the right lower molar; the abscess was incised, and a few days later the tooth was extracted. On the following day, ptosis of the right eyelid was noticed, and two days later a similar condition developed on the left side. She began to suffer from intense headaches and profuse vomiting.

Examination showed a pale, emaciated child of normal size and good development. Her station and gait were negative. All the tendon-reflexes were increased; no Babinski; no clonus. The abdominal reflexes could not be elicited. No sensory disturbances. Smell was unaffected. There was complete bitemporal hemianopsia, with pallor of the optic disks. There was complete ophthalmoplegia of the left eye, and the right eyeball was drawn outward. Both pupils were widely dilated and failed to react to light and accommodation; the other cranial nerves revealed no abnormalities. The heart, lungs and abdominal viscera were negative.

The blood and spinal fluid were negative as to the Wassermann test. The roentgenogram showed a marked depression of the middle fossa of the skull, presenting a trough-like appearance, while the posterior clinoid process was pushed forward, narrowing the upper part of the sella turcica. With these findings, the diagnosis of a tumor of the base of the brain was established. The headaches and vomiting have disappeared completely for the past few weeks, but the child is extremely emaciated and totally blind. No other symptoms have developed.

Air in the Cerebral Ventricles Following a Fracture of the Skull

Dr. W. H. Luckett: The patient, a machinist, aged 47, admitted to the hospital Nov. 24, 1912, shortly after he had been struck by a trolley-car and thrown to the pavement, was conscious and rational on admittance. The pupils reacted equally to light. There was a right subconjunctival hemorrhage and a lacerated wound over the right eyebrow, connecting with a circular fracture of the frontal bone just above the orbital ridge. The tongue was covered with a bloody fluid, probably cerebrospinal fluid. A diagnosis of fracture of the skull was made and confirmed by two roentgenograms. The patient was prepared for immediate operation, but his symptoms cleared up so rapidly that it was decided to wait. On the fourth day he was sitting up in bed; on the seventh he was out of bed, and five days later he left the hospital contrary to advice and under protest.

One week later he was readmitted with the history that two days previously he had had a severe headache, with occasional vomiting. Up to that time he had been reading the papers daily, although he was dull and listless and would not converse with any one, and took no notice of his surroundings. For the past few days he had not replied when spoken to, although he understood what was said to him.

Two days after his readmission to the hospital the patient was examined. At this time he was conscious; he answered questions and obeyed commands intelligently; cerebration was slow and he was inclined from time to time to lapse into a condition of mental confusion; there was no aphasia at this time; no disturbance of speech; no astereognosis; tremor of tongue and hands. The pupils were normal and reacted equally. Facial innervation and motility of the tongue were normal. No tenderness on percussion over skull. No rigidity of neck. Upper extremities normal; the lower extremities showed no paresis or rigidity, but were resistive to examination. Both knee-jerks were increased, especially the right. Diagnosis, increased intracranial pressure: probably abscess.

A blood-count, made December 15, showed 15,900 leukocytes, with 86 per cent. of polymorphonuclears and 8 per cent. of lymphocytes. An ophthalmoscopic examination on the same day showed that the external ocular muscles of both eyes were normal. with a slight subconjunctival hemorrhage in the right temporal quadrant. In the right fundus the veins were enlarged and tortuous, with the central vein markedly dilated over the disk and also at the exit from the nerve. The arteries were slightly contracted. The disk borders were indistinct. owing to marked edema. In the left fundus the veins were also markedly dilated. the arteries were contracted. the disk borders were indistinct and there was a suspicion of retinal hemorrhage. Diagnosis. bilateral optic neuritis indicative of intracranial pressure.

A second series of roentgenograms showed that the ventricles of the brain were enormously dilated with what was probably either air or gas, and the patient apparently growing worse. a right-sided subtemporal decompression was done, December 16. On exposure. the dura did not bulge and was not particularly tense. No fluid escaped on incision of the dura and pia; a slight meningitis was noted. A needle was then passed into the anterior horn of the lateral ventricle, and the removal of the trocar was followed by two or three quick spurts of air and fluid. and then 8 c.c. of clear cerebrospinal fluid.

Because of the presence of a slight meningitis. the large quantity of fluid and the presence of air in the ventricles. it was determined to drain them. Accordingly a suboccipital operation was performed. The bone was exceedingly thin. The dura was incised, and then the pia into the cisterna magna, and immediately there escaped considerable clear fluid, admixed with bubbles of air. A small piece of twisted rubber tissue was inserted as a drain. The patient did well until the fourth day after the operation, when his temperature suddenly rose to 107 and he died.

At the necropsy air was shown to be present in the ventricles when they were incised with the brain submerged in a vessel of water. There was a lacerated wound of the base of the right frontal lobe just beneath the right anterior horn and just over the fracture in the orbital plate that communicated with the frontal sinus. It was subsequently learned that air was probably forced up through the fracture in the frontal sinus into the ventricles during an attack of sneezing.

Some Anomalous Tremors

Dr. Smith Ely Jelliffe: I wish to report two cases. The first patient was a woman, aged 29, with a tremor of the left hand which was continuous during the day, disappearing during sleep. The tremor had come on gradually about seven months previously. Its rate was from 5 to 6 to the second, and had little intention quality. There was also a slight inequality in the pupils, but no modification of the reflexes. Wassermann and other examinations were negative throughout. The eyegrounds were normal.

The second patient, a woman, aged 34, had a tremor which began fourteen years previously in a manner similar to that illustrated in the first case. It began in one hand and gradually became generalized, until now it involved almost the entire body. There was marked stiffness and a tendency to retropulsion at times. There were no palsies or sensory changes, except that the sole of the left foot showed a slight diminution to light touch. All the reflexes were fairly active; there was no distinct Babinski. The eyes showed a slight inequality of the pupils, which was also present in the first case, and a distinct pallor of the temporal side of both disks. The fields were normal; there was no nystagmus. There were no speech defects. The patient was a sensible, intelligent young woman, and careful analysis failed to show any complex constellations. She had gradually lost weight, but there was no appreciable diminution in muscular power.

DISCUSSION

Dr. B. Sachs: I think that the first case was one of paralysis agitans and the second one of multiple sclerosis. The first case was absolutely typical of paralysis agitans. There was no other type of tremor that it could be mistaken for, and the only one that could be at all compared to it was an occasional functional tremor. I recall one case of the kind in which the husband had paralysis agitans and the wife developed a similar functional tremor. In the case shown by Dr. Jelliffe the woman had the facies of paralysis agitans, and no symptoms which would lead one to think of any other diagnosis. Her age. 29, would not necessarily militate against the diagnosis, as paralysis agitans may have its onset in early life. I once saw a case of paralysis agitans in a young man coming on at about the age of 18 or 20. In that case the patient eventually developed all the symptoms of a disseminated sclerosis, although at their onset they were quite characteristic of paralysis agitans.

As to the second case, there is no doubt that it was an example of multiple sclerosis. The woman had a tremor which became worse on exertion, and she had just a slight tremor—an unconscious tremor we might call it—of the head and neck muscles, which we do not see in paralysis agitans. This is significant of multiple sclerosis. She had also had a pallor of the optic disks and some monotony of speech.

Dr. J. Ramsay Hunt: In the first case, on passive motion, there could be elicited a slight interrupted rigidity of the muscles. This is a phenomenon to which Dr. Moyer has applied the name of the "cog-wheel" symptom of paralysis agitans, and in early cases it is of distinct value. As to the second case, a positive diagnosis cannot be made. That offered by Dr. Sachs would be a probable working one; at the same time I am inclined to regard it as a case of progressive degeneration, perhaps in the pyramidal tracts.

Dr. William Leszynsky: The unusual factor in the first case is the age of the patient. The character of the tremor is not at all unusual. I can recall perhaps half a dozen cases in which it was unilateral, being confined to one hand for many months. When the patient's attention is directed to the opposite hand. the tremor on the affected side increases, which is quite characteristic in paralysis agitans. As to the second case, I do not think much stress can be laid on the pallor of the disks, as ophthalmologists frequently differ in their view of its significance—whether it is pathologic or physiologic. In this case there is apparently no disturbance of the field of vision. I would favor the diagnosis of paralysis agitans.

Dr. Edward D. Fisher: I have seen a case similar to the first one in which there was evidently a lesion in the crural tract, but the tremor was constant and increased on motion. As to the second case, I would be inclined to look on it as a paralysis agitans rather than a multiple sclerosis.

Dr. B. Onuf: In the second case there might be a diffuse brain sclerosis instead of a multiple sclerosis.

Dr. M. Neustaedter: About two years ago I reported the case of a man aged 28, who after a shipwreck developed a tremor of one hand, the nature of which was at first uncertain. It was finally shown to be a case of paralysis agitans, as proved by the tremograph.

Dr. L. Pierce Clark: The two cases impressed me much as they do Dr. Sachs, and for the same reason. I was surprised to hear from the discussion that paralysis agitans should be looked on as such an entity. It is rather premature to insist on an anatomic basis for that disease. In the first case, the tests showed that there was a distinct alteration of the vibrations to the intention type of tremor. I believe that this was a case of paralysis agitans, while the second was one of disseminated sclerosis. I saw a case of paralysis agitans in a man 29 years old, although these patients look older on account of the mask-like expression of the face.

Dr. S. E. Jelliffe: I feel justified in inferring that the two cases are of a similar type—that the first case represents the beginning stage of what might ultimately develop into the condition of the second case. I believe that in both cases the process is one of multiple sclerosis, but one which was localized at first and primarily in the midbrain structures. Here we have midbrain or paralysis agitans types of multiple sclerosis. the multiple sclerotic area involving those pathways which in the more recent works on this subject are referred to as being involved in paralysis agitans. As to the character of the tremor. at least three definite types of tremor originating in the midbrain structure, depending on the point of interruption of the mechanism. are to be distinguished. These are the athetoid, the paralysis-agitans-like, and the intentional tremor. From the more recent studies of this subject we are able to say in just what portion of the arc the mechanism was interrupted. In both of my cases the tremor was like that of paralysis agitans. The presence of vasomotor signs indicated possibly the implication of the thalamus, while the eye signs pointed to lesions located near the red nucleus.

Social Service and Public Health.—Social service in its study of character under adversity meets certain problems, certain forces that are breaking down character. The work of social service in remedying these evils has to deal with public health. One phase of the subject of public health which will do much to prevent feeble-mindedness. degeneracy, etc.. is requiring a physical examination before marriage. A huckster, before he can get a license to pursue his trade in Chicago, must be asked a variety of questions and have his rating looked into, but all a man has to do to get a marriage license is to hand through a wicket the money and the names of the parties. No one should be allowed to get such a license who hasn't a certificate from a physician "declaring that he or she has no incurable or communicable disease." The teaching of sex-hygiene will help along this line. Every possible means should be employed to bring about accurate and wholesome knowledge of this subject.—Dean Walter T. Sumner, *Child Welfare Bull.*

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

March, CXLV, No. 3, pp. 313-468

1 *Symptomatic Differentiation Between Disorders of Two Lobes of Hypophysis Cerebri. H. Cushing, Boston.
2 **Gastric Disturbances in Tabes Dorsalis.* W. F. Cheney, San Francisco.
3 Lymphocytosis of Infection. R. C. Cabot, Boston.
4 *Gastric Ulcer Without Food Retention; Clinical Analysis of 140 Operatively Demonstrated Cases. F. Smithies, Rochester, Minn.
5 Economic Aspects of Uncinariasis in Porto Rico. B. K. Ashford, U. S. Army.
6 *Urticaria Treated with Epinephrin. A. W. Swann, New York.
7 *Dissemination and Prevention of Yellow Fever. J. H. White, New Orleans.
8 *Sanatorium of Future.* H. J. Hall, Marblehead, Mass.
9 Diagnosis of Functional Activity of Pancreas by Means of Ferment Analyses of Duodenal Contents and Stools. B. B. Crohn, New York.
10 Study of Empyema, with Special Reference to Feasibility and Importance of Dependent Drainage. T. T. Thomas, Philadephia.

1. Disorders of Two Lobes of Pituitary Body.—The view is advanced by Cushing that skeletal overgrowth, possibly combined with certain cutaneous changes and hypertrichosis, is an indication of anterior lobe hyperplasia. On the other hand, certain types of adiposity with an increased assimilation limit for carbohydrates, often with dry skin, subnormal temperature and pulse, are characteristic of the metabolic disturbances from posterior lobe insufficiencies. Hypotrichosis and sexual dystrophy are common accompaniments.

Assuming the combination of these factors, certain not unfamiliar clinical syndromes, in which overgrowth is associated with adiposogenital dystrophy, can be explained. They differ from the accepted syndrome of Fröhlich not only in the absence of an hypophyseal tumor with sellar enlargement. but also in their opposed skeletal features. These physical states, in brief, are interpreted as the expression of an anterior lobe hyperplasia combined either with posterior lobe hypoplasia or with what is in effect the same thing, stasis of posterior lobe secretion.

2. Gastric Disturbances in Tabes Dorsalis.—It is maintained by Cheney that the recognition that certain gastric disturbances are really due to tabes is never difficult if one is alert to the possibility. There is no fixed unchangeable rule about the nature of these disturbances, or about their duration, or their frequency of recurrence. to make their diagnosis easy. They are not accompanied by the evidences of organic disease in the stomach that one expects to find; they recur in spite of treatment of all kinds directed to the stomach, even in spite of laparotomy; they usually appear abruptly. without reason, and cease suddenly regardless of treatment. leaving the patient perfectly free from gastric disturbance in the intervals. On the other hand, no manifestations of "locomotor ataxia" may be present for years during which the stomach upsets continue. and the patient may make none of the complaints that one expects to hear when spinal disease exists. The proof of the connection between the gastric disturbance and the spinal lesion, therefore, must often depend on the discovery of signs of tabes of which the patient is unaware, such as faulty reflexes and cutaneous sensibility and changes in the spinal fluid obtained by lumbar puncture; while the demonstration that active syphilis exists. by the Wassermann reaction in the blood and spinal fluid or even in the latter alone, adds the last link to the chain.

4. Gastric Ulcer Without Food Retention.—A clinical analysis of 140 cases of operatively demonstrated surgical gastric ulcer without food retention was made by Smithies. He found that in more than one-third of operatively demonstrated gastric ulcers the stomach's emptying power is maintained. Ninety-two per cent. of this group of ulcers occurs between the ages of 30 and 60. Males are affected three times as frequently as females. The American-born farmer furnishes a large number of gastric ulcers. Irregularity of food ingestion with the use of alcoholic stimulants is not an uncommon concomitant of gastric ulcer. A rather striking frequency of history of previous infectious disease is shown; 18.9 per cent. of the patients had had typhoid. A mild grade of secondary anemia is present in the average gastric ulcer. Weight loss averaging more than twenty pounds without marked cachexia was shown in this series. The loss may be so rapid as frequently to suggest malignant disease. Some patients consistently gain weight. Appetite is lost or is capricious in nearly three-fourths of the cases. More than 65 per cent. are constipated. Nearly three-fourths of the patients have "spells" or "attacks" of discomfort, with good health between. Such a history may extend over thirty years without alarming clinical manifestations. The attacks are usually called "biliousness" or "dyspepsia." They often show a peculiar seasonal relation. In 36 per cent. of instances the disability is continuous, with or without nutritional disturbances. Abdominal pain or distress is a constant symptom in gastric ulcer. It is "colicky" in nature in more than 22 per cent. of cases, requiring hypodermic medication in 12.7 per cent. It is frequently mistaken for appendix, or gall-bladder disease, and is often associated with such in addition to gastric ulcer. Night pain, with interference with sleep, is present in 19.2 per cent. of cases. Eighty per cent. of patients complain of epigastric distress, frequently referred to the right rib margin or the back. In 87.7 per cent. of proved ulcers, pain or distress has definite relation to food ingestion. Eighty-three per cent. of cases show pain or distress coming on within four hours following eating. Nearly two-thirds of pyloric ulcer cases have discomfort from two to four hours after eating, more than one-half of lesser curvature ulcers from one to three hours after eating, more than two-thirds of posterior wall ulcers within three hours after eating, and more than two-thirds of ulcers near the cardia less than two hours after eating, while more than 44 per cent. of this class less than one hour after eating. Discomfort is most frequently controlled by ingestion of food, alkalies and by vomiting; 12.2 per cent. required morphin.

On palpation, epigastric tenderness is exhibited in 95 per cent. of cases. In more than three-fourths of the series, tenderness was most marked in the right upper abdominal quadrant; 2.8 per cent. of cases showed palpable ridges. More than four-fifths of the ulcers were located at the pyloric half of the stomach, and this was in general the anatomic area of greatest complaint or distress on examination. The diagnosis of the character of ulcer to be found on exploration is only possible where a careful anamnesis is made.

Vomiting is present in nearly three-fourths of gastric ulcers without food retention. About 17 per cent. vomit food. Only rarely is delayed vomiting observed. Vomiting is induced in more than 10 per cent. of cases to relieve pain. Nearly 40 per cent. of patients vomit regularly. "Waterbrash" is a prominent feature in 19 per cent.; pyrosis and eructation in 87.8 per cent. In nearly one-third of the cases, vomiting comes at the time of maximum abdominal distress. In 28 per cent. the ingestion of food precipitates vomiting; more than 53 per cent. vomit within three hours after eating. In 7 per cent. night vomiting is a feature. Ulcers at the pyloric half of the stomach are most commonly associated with vomiting even when there is no interference with the emptying power of the stomach. Of 140 proved ulcers in this group, bleeding (hematemesis or melena) was noted in but 40.7 per cent. About one-fourth of the cases had hematemesis alone, one-third hematemesis with or without melena, while 7.1 per cent. had melena alone. Severe hemorrhage or frequently repeated moderate hemorrhages are usually associated with faint feelings or actual fainting (40 per cent.). Hematemesis is more frequent than melena, but melena alone may occur entirely independent of the location of the ulcer. While bleeding is associated with any type of ulcer, nearly two-thirds of those doing so show operative evidences of perforation. Test-meal findings. Acidity: Irrespective of location of the ulcers the average total acidity was 55; the average free HCl, 42.5; the "combined" HCl in 82 per cent. of cases between 10 and 20. Total acidity is most commonly higher in ulcers involving the lesser curvature and anterior wall than where other parts of the stomach are affected. High free HCl is noticeably more frequent where the ulcer is at the pylorus. While high free HCl is usual in cases in the third decade of life, this is not the rule. Following food ingestion the great majority of cases show pain within four hours. This series shows that during this period free HCl is progressively increasing. Patients complaining of continuous distress do not necessarily have high acidity. Vomiting is not usually associated with high free HCl. More than half of the non-vomiting cases had higher acidity than was the average of those vomiting. The average free HCl of patients bleeding was 35 +. More than half of the cases giving no history of hemorrhage had average free HCl of 46. The highest free HCl averages are associated with subacute perforating ulcer. Operative Findings: More than two-fifths of the ulcers were at the pylorus. Of fifty ulcers microscopically examined in this series 24 per cent. showed active inflammatory change, 12 per cent. early carcinoma. In 35 per cent. of cases, diseased appendix was associated with gastric ulcer. In 15 per cent. cholecystitis and cholelithiasis were demonstrated as concomitant processes. In nearly two-thirds of this group of gastric ulcers, diseased appendix and gall-bladder were revealed operatively. In view of these figures it is evident that all laparotomies should be thoroughly exploratory even when a well-marked gastric ulcer has been demonstrated. Operative procedure should be adapted to the individual finding on exploration. A routine technic is frequently accountable for poor post-operative progress. Prompt relief of symptoms with a comfortable after-course is the rule following operative treatment of retention-free ulcer cases. This series shows an operative mortality of 1.4 per cent. Rather more than 4 per cent. required a second operation. This usually occurred in uncommon cases.

6. **Urticaria Treated with Epinephrin.**—In six cases of urticaria which Swann has treated by the subcutaneous administration of epinephin the injections were followed by a rapid disappearance of the erythema and wheals. In each case a dose corresponding to about eight minims (1-1,000 solution) for an adult of one hundred and forty pounds was given hypodermically, and the dose was repeated in ten minutes. Two doses sufficed in every instance to cause the complete fading of the rash. An improvement was usually evident eight minutes after the initial dose, and was most marked between ten and twenty minutes, during which time, especially in the severe cases, the rapidity with which the eruption subsided was very striking. After twenty minutes there usually remained some erythematous blotches, or small, pale wheals, which continued to fade until the skin looked entirely normal. All itching ceased in from five to twenty minutes after the first dose.

7. **Dissemination and Prevention of Yellow Fever.**—That the mosquito is the only disseminator of yellow fever, and the female stegomyia the only genus and species proved to be the carrier is emphatically stated by White. Further, he says that yellow fever is only infective during the first three days of the attack, and the mosquito biting a patient after that time receives no infection. The stegomyia itself cannot convey the infection to another human until after the lapse of at least ten days subsequent to the ingestion of yellow fever blood. One attack of yellow fever generally gives immunity—not always. Feeble susceptibility in the negro is sometimes confused with immunity. Mild cases are the rule with that race, and this causes many cases to be overlooked. Destruction of all breeding-places for all varieties of mosquitoes, and especially stegomyiae, anophelines and culicidae, is necessary in dealing with endemic foci. Rapid anti-epidemic work may be confined to destruction of infected stegomyiae alone; but this is short-sighted.

American Journal of Public Health, New York

February, III, No. 2, pp. 101-196

11 Value of Human Life. C. V. Chapin, Providence, R. I.
12 Mosquito Catching in Dwellings in Prophylaxis of Malaria. A. J. Orenstein, Washington, D. C.
13 Public Health Service Not a Medical Monopoly. M. Knowles, Pittsburgh.
14 Plea for More General Recognition of Qualifications of Sanitary Engineer for Administrative Public Health Work. C. H. Wells, Montclair, N. J.
15 Revitalizing Devitalized Children. W. W. Roach, Philadelphia.
16 Efficiency. M. T. Stevens, Seattle, Wash.

17 *Medium for Isolation of Colon Group. F. L. Rector, Brooklyn.
18 Plan for Reorganization of Public Health Service in State of New York. C. F. Bolduan, New York.
19 Comparison Between Sand Filtration Method and Bubbling Method for Enumerating Bacteria in Air. J. Weinzirl, Seattle, Wash., and J. B. Thomas, Baltimore.
20 *Effect of Freezing on Typhoid Vaccine. A. P. Hitchens and G. Hansen, Glenolden, Pa.
21 *Effect of Mixed Typhoid Vaccine with Regard to Formation of Agglutinins. A. P. Hitchens and G. Hansen, Glenolden, Pa.

17. **Isolation of Colon Group.**—As is well known, not all red colonies on litmus lactose agar prove to be of the colon type, and a medium giving a larger number of positive tests is desirable. A medium of the following composition was devised by Rector and tested for adaptability to this line of work:

Dried ox bile	10 per cent.
Peptone (Witte)	1 per cent.
Agar (shredded)	1.5 per cent.
Lactose	1 per cent.
Neutral red (1 per cent. sol.)	1 per cent.
Distilled water	q.s.

The dried bile and peptone are added to the distilled water, boiled and filtered through paper. The agar is then added and heated for one hour in the Arnold steamer. While the agar is dissolving prepare a filter of cheese cloth and absorbent cotton as proposed by Major Russell of the U. S. Army, and place this in the sterilizer with the bile solution. When the agar is dissolved it is filtered through the cotton, and the lactose, which had been dissolved previously in a small quantity of hot distilled water, is added, also the neutral red solution. After thorough mixing the material is tubed, placing from 6 to 10 c.c. in each tube, depending on the size of Petri dish used, and autoclaved for ten minutes at 12 pounds pressure. When in tubes, this medium looks quite red, but when placed in Petri plates in a thin layer, it is yellowish brown in color, and more or less opaque. On this medium colon-like colonies produce a *distinct purplish red zone, which is characteristic.* There is a clear area immediately surrounding the colony, which shades off into the denser medium. Owing to the inhibitory action of the bile, many bacteria which grow on litmus lactose agar will not grow on this medium. Plates of bile agar and litmus lactose agar were made from a suspension of horse feces using sterile distilled water as the diluting medium. At the end of twenty-four hours' incubation, sixty-five colonies, all showing characteristic appearance, were found on the bile agar plates, while 200 colonies, only forty of which were red, were counted on litmus lactose agar plates. Sub-cultures of various colonies from the bile agar plates showed them to be of the colon group. A series of seventeen cultures isolated at various times from water and one colon culture were inoculated into plates of bile agar and litmus lactose agar. Only eight of the eighteen grew on bile agar, and only two of these gave typical colonies on the plates. One of these was the colon which has been isolated from feces and the other was a member of the group isolated from a municipal water supply. Nine cultures, only two of which were of the colon group, gave a red growth on litmus lactose agar plates.

20. **Effect of Freezing on Typhoid Vaccine.**—If freezing effects vaccine at all, the authors claim that the weakening is slight. Under the ordinary conditions of the market a vaccine would be frozen only once or twice and thus the deterioration in strength would be negligible.

21. **Formation of Agglutinins.**—Vaccination with a mixture containing the ordinary number of typhoid bacilli and half the quantity of the paratyphoids confers as much immunity to each individual germ as though the single vaccine were used.

Archives of Diagnosis, New York

January, VI, No. 1, pp. 1-100

22 *Surgeon's Diagnosis in Neurasthenic Conditions. R. T. Morris, New York.
23 Therapeutic-Differential Diagnosis of Constitutional Dysmenorrhea. S. W. Bandler, New York.
24 *Atony of Cecum (Typhlatonia). H. Stern, New York.
25 Differential Diagnosis of Diseases of Genito-Urinary Tract. L. Heitzmann, New York
26 Symptomatology, Diagnosis and Treatment of Aneurysm of Thoracic Aorta. C. G. Cumston, Boston.
27 Diagnostic Features of Phrenocardia (Sexual Psychogenic Cardiac Neurosis). J. Gutman, Brooklyn.
28 Family and Personal History Registers. J. M. Taylor, Philadelphia.
29 Prognosis of Operative Mastoiditis. H. Hays, New York.
30 Atypical Case of Acute Miliary Tuberculosis, Pulmonary Form. S. B. Ward, Albany, N. Y.
31 Recent Advancement in Roentgen Ray Diagnosis of Diseases of Genito-Urinary Tract. W. H. Stewart, New York.

22. **Neurasthenic Conditions.**—The *surgical point of view in* relation to cases of neurasthenia according to Morris begins from the standpoint of the bacteriologist's report, no matter whether it relates to a well-constructed individual suffering directly from the influence of colonic toxins, or whether he is dealing with progeny of such individuals, who are still more susceptible than were the parents to microbic influences. Other toxins, the end-products of various proteolytic changes, no doubt are influential in causing injury to the protoplasm of cells. Various products of waste improperly metabolized also act as toxins. In making a diagnosis of neurasthenia, however, or of the relative values of various phases of the condition, Morris says, we must begin from the bacteriologist's report of colonic findings. The surgeon can help in many of these cases by relieving the patient from features which exert a precipitating influence in the development of various symptoms belonging to neurasthenia. He can fix the loose kidney by a ten-minute operation. He can suspend the sagging colon and can separate adhesions which interfere with gastric or intestinal motility. He can break a part of the vicious circle, but his work does not end the possibility of our still continuing to make the diagnosis of neurasthenia in these cases.

The internist can help in most of these cases, by controlling the output of toxins from the colonic bacteria. The ophthalmologist and various other specialists can help by relieving the patient from the influence of peripheral irritations which precipitate the appearance of symptoms.

24. **Atony of Cecum.**—This condition, Stern says, prevails frequently in young individuals, but it is also common in both sexes between the twenty-fifth and forty-fifth year of life. Obstinate constipation continuing even during the attack-free intervals is the paramount characteristic of the affection. Paroxysms of severe griping pain lasting, as a rule, for some hours, supervene at irregular periods. In a certain proportion of the cases definite paroxysms of pain never occur; the patient may experience a certain amount of discomfort, at some times more, at others less. There may be fulness at the site of the cecum and a dragging on the ascending colon, which may even be felt in the region of the hepatic flexure. The atonic cecum may readily be mistaken for a case of latent cholelithiasis. At other times the discomfort may be due to traction of the cecum on its mesentery or on lateral adhesions. Pains, especially those in the flank, may be due to constriction of veil-like structures partly or entirely enveloping the cecum.

During an acute attack of colic there may be noted loss of appetite, often nausea and vomiting, and sometimes marked symptoms of collapse. Temperature elevation does not take place in the average case. The pulse frequency is unchanged and the leukocyte count is normal. Palpation evinces a localized resistance or even a circumscribed tumefaction in the cecal *region. The resistant area or tumefaction is never firm, but* rather soft and elastic, and feels to the touch like a moderately inflated toy balloon. In the absence of adhesions the palpating hands can passively displace the resistant area. A cecal balloon is not always readily distinguishable from an incomplete direct inguinal hernia. Examination by the rectum does not reveal the cecal ballooning. Percussion confirms the palpatial findings by determining a circumscribed area of tympany which corresponds more or less closely to the area of resistance offered by the distended and atonic cecum.

Ileocecal gurgling is said to be probably the most characteristic symptom of the dilated atonic cecum; in a number of the cases cecal splashing sounds may [illegible] licited. The palpatorial findings and acoustic [illegible] constant dur[illegible] pain-free intervals [illegible] sistance ceased, whether the wound is recent or granulating. If oozing of blood persists the wound surface must be covered by a protective layer of rubber tissue, of silver foil, guttapercha tissue, oiled silk, or such like material, over which sterile gauze is applied and the skin grafting put off till next day. When on the next day the bleeding has ceased the grafting should take place.

The area to be grafted should be cleaned thoroughly first with peroxid of hydrogen which is washed off with a bichlorid solution of 1:1,000 or 1:10,000. After the use of the above the parts are next washed with decinormal salt solution. After thoroughly cleansing the area the grafts are placed over the wound carefully and smoothly.

When the whole wound is covered with grafts place over them oiled silk fenestrated so as to facilitate drainage. The next dressing should be ordinary sterile gauze and soaked in decinormal salt solution or Carrel's solution.

Over this gauze soaked with decinormal salt solution a damper or rubber tissue should be placed, so that the moisture may not evaporate. Over the damper more sterile gauze is placed and ordinarily dressed. The first dressing of sterile gauze should be daily changed and soaked in normal salt solution. In order that the grafts be not moved during the daily changing of the dressings, Sabella places collodion around the fenestrated oiled silk. No antiseptic lotion should be used, only the saline solution. The same kind of dressings should be applied until the healing process is complete. Very large surfaces can be made to heal in a short time by this process. Sabella has tried this method on several patients and states that he has gained great success with it.

New York Medical Journal

March 15, XCVII, No. 11, pp. 529-580

110 Acidosis. W. S. Gordon, Richmond, Va.
111 Blood and Sputum in Croupous Pneumonia. R. C. Rosenberger and C. V. Dorworth, Philadelphia.
112 Connection of Sexual Apparatus with Ear, Nose and Throat. V. Dabney, Washington, D. C.
113 Disease of Nasal Accessory Cavities. S. Oppenheimer, New York.
114 Uric Acid Calculi. W. H. Porter, New York.
115 Medical Efficiency. I. S. Wile, New York.
116 Extrasystoles. S. Neuhof, New York.
117 Specific Treatment of Pellagra. E. H. Martin, Hot Springs, Ark.
118 Carbonated Baths. I. M. Groedel, Bad-Nauheim, Germany.
119 Tuberculosis. M. W. McDuffie, New York.
120 Whooping-Cough. S. R. Kelin, New York.
121 Appendicitis or Not Appendicitis. H. A. Schatz, Philadelphia.

Southern Medical Journal, Nashville

March, VI, No. 3, pp. 147-217

122 Compelling Health-Study of Attitude. R. S. Carroll, Asheville, N. C.
123 *Symptoms and Clinical Diagnosis of Bubonic Plague. J. B. Guthrie, New Orleans.
124 *Diagnosis of Plague. R. L. Wilson, Charleston, S. C.
125 Prophylaxis of Plague. J. E. Beck, Mobile, Ala.
126 Toxemias from Alcohol. T. D. Crothers, Hartford, Conn.
127 Pediatrics. W. Weston, Columbia, S. C.
128 Sclerema Adiposum with Report of Case. J. R. Snyder, Birmingham, Ala.
129 Malarial Hemoglobinuria: Report of Case. A. Hand, Shubuta, Miss.
130 Review of 131 Cases of Pellagra. B. E. M. Green, Milledgeville, Ga.
131 Acute Pancreatitis with Report of Four Cases. S. H. Watts, Charlottesville, Va.
132 Some Modern Factors of Safety in Surgery. J. S. Horsley, Richmond, Va.
133 Identity of Cause of Aseptic Wound Fever and Post-Operative Hyperthyroidism and Their Prevention. G. W. Crile, Cleveland.
134 *Management of Fractures of Elbow. I. Cohn, New Orleans.
135 Nail Occluding Third Bronchial Ramus; Upper Bronchoscopy. Recovery. J. W. Jervey, Greenville, S. C.
136 Treatment of Chronic Laryngeal Stenosis by Specially Devised Intubation Tubes. H. Dupuy, New Orleans.
137 Cause, Prevention and Cure of Deafmutism. M. M. Stapler, Macon, Ga.
138 Surgical Treatment of Infections of Peritoneum with Special Reference to Immediate Sterilization of Same. J. A. Crisler and E. J. Johnson, Memphis, Tenn.

123 and 124. Abstracted in THE JOURNAL, Dec. 14, 1912, p. 2182.

134. Management of Fractures of Elbow.—Reduction, says Cohn, the essential factor in the treatment of all fractures, is maintained with the forearm in the hyperflexed position without the aid of artificial devices, such as splints. The triceps is a natural posterior splint; further, the lever action of the flexor muscles of the forearm is overcome by the relaxation which the hyperflexed position permits; there is, therefore, no tendency on their part to increase the deformity into the bend of the elbow. In fractures of the external condyle the position of hyperflexion brings the head of the radius closer to the condyles, and, with the aid of the triceps, prevents the displacement. Practically the same anatomic considerations indicate the use of this method in all fractures involving the condyles or portions of them. Cohn cites eleven cases. Of this number there are eight perfect results. The three cases in which there is limitation of motion were seen several days after the accident, in one case eleven days, and in two of these cases there was a fracture of the olecranon, complicating the fracture of the humerus. Therefore Cohn concludes that in the series of fractures in which the olecranon was not injured, eight out of a possible nine have perfect results, the ninth case not having been seen for eleven days. The management of these cases has been about as follows: Reduction has been accomplished by temporarily hyperextending to overcome any impaction, after which the elbow is acutely flexed, and the flexures are well powdered, the arm and forearm are padded well, and a roller bandage is applied. The bandage should include the hand. If this last-named procedure is not carried out, there will be a great amount of swelling of the hand, which will, in turn, be a source of alarm to the parent. The patient is always seen the following day, and, if necessary, the bandage is changed. At least twice a week the bandage is removed for the purpose of inspection; if no untoward accident has happened, the parts are carefully washed and redressed, as before, until the tenth or twelfth day. At this time there should be sufficient temporary callus thrown out to prevent a recurrence of the deformity unless the manipulations are too severe. After the twelfth day the dressings are changed every three days, and at each dressing the flexion is diminished until, at the end of about four or five weeks, the arm is fully extended. The position is maintained by the use of an anterior splint which has a hinge joint at the elbow (Levis). No great amount of massage or passive motion is allowed. After the fifth week the arm is taken out of all bandages and allowed to hang by the side. The patients are encouraged to practice the ordinary movements of the joint. If there is some limitation of motion on account of callus formation, dry heat and massage are made use of. Usually by the eighth week the patients have been able to use the arms with freedom.

Tennessee State Medical Association Journal, Nashville

March, VI, No. 11, pp. 435-476

139 Diagnosis of Prostatic Hypertrophy. P. Bromberg, Nashville.
140 Pediatrician as Dietetist. M. H. P. Panhorst, Jonesboro.
141 Goiter et Hyperthyroidism. J. B. Haskins, Chattanooga.
142 Artificially Induced Climatic Conditions as Adjunct to Treatment of Tuberculosis in Early Stages. D. M. Pearce, Union City.
143 Serotherapy of Tuberculosis. T. D. Cloyd, Mosheim.
144 Eye Injuries. C. B. Wylie, Chattanooga.
145 Subconjunctival Injection in Eye Diseases. E. B. Cayce, Nashville.
146 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.
147 Pathologic Conditions of Gall Tract and Treatment. T. O. Burger, McMinneville.

West Virginia Medical Journal, Wheeling

March, VII, No. 9, pp. 289-324

148 Placenta Praevia. H. M. Campbell, Parkersburg.
149 Significance of High Red Blood-Corpuscle Count. C. W. Sawyer, Marion, O.
150 Puerperal Eclampsia. A. P. Butt, Davis.
151 Observations of a General Practitioner on Entering Institutional Work. C. A. Barlow, Spencer.

Wisconsin Medical Journal, Milwaukee

February, XI, No. 9, pp. 273-306

152 Needs of Eye, Ear, Nose and Throat Surgeon in General Hospitals. F. Allport, Chicago.

153 Symptoms and Diagnosis of Pathologic Conditions of Cecum and Terminal Ileum. N. Andrews, Oshkosh.
154 *Abnormal Pelvic Conditions in Insane Women and Their Relation to Mental State. M. Sauthoff, Mendota.
155 For an Earlier Diagnosis of Tuberculosis. G. L. Bellis, Wales.
156 Retention of Urine. E. A. Fletcher, Milwaukee.

154. **Abnormal Pelvic Conditions in Insane Women.**—Two hundred insane women taken without selection from the admissions to one of the Wisconsin insane hospitals were subjected to a pelvis examination by Sauthoff. One hundred and three were found to have some lesion that was grave enough to cause symptoms, or to have had lesions grave enough to have required operation before admission. Very small cervical lacerations with no erosions and very small tears of the perineal body with no symptoms were not classed as abnormal. In many of the women who have some pelvic abnormality more than one lesion was found and in the entire 103 abnormal cases there were 251 pathologic conditions. In noticing the character of these pathologic states, a non-adherent retroverted uterus was found in 33 per cent. of the abnormal cases, an adherent retroverted uterus occurring in only 5 per cent. Laceration of the perineum was found in 27 per cent.; arrest of development in about 12 per cent.; inflammatory lesions were found in about 54 per cent. but only a few were acute. Cervical tears of any magnitude occurred in about 16 per cent.; polypi were few in number, as were the cases of other tumors, and there was not a single case of malignancy. There were many cases that showed a post-operative condition in which the operation had been of greater or less severity varying from a perineorrhaphy to a panhysterectomy. This list, however, does not include those patients who had had an immediate repair of the perineum following parturition. It was found that 19 per cent. of the abnormal women and 10 per cent. of the entire number examined had had operations for the relief of some pelvic lesion and that in 60 per cent. of these cases the operation was performed after the onset of the mental symptoms and in only one case has it been possible to ascertain positively that the mental trouble came on after the operation. While the pregnant state was not classed as abnormal, 3½ per cent. of the whole number were in various stages of pregnancy at the time of their admission to the hospital and two-thirds of these cases were of the manic depressive group. In the infective exhaustive group 75 per cent. showed lesions. The cases of involution melancholia showed 61 per cent. of abnormal cases. The manic depressive group showed 58 per cent. and the dementia praecox 47 per cent. abnormal. In the paranoic condition and the epileptic psychoses there were only about one-third of the cases that showed lesions. In the alcoholics, the imbeciles and the psychoses with other brain or nervous diseases there were about one-half of the cases abnormal. Forty per cent. of the constitutionally inferior individuals and 43 per cent. of the senile cases showed lesions. The cases of paresis were all of a chronic inflammatory nature and those of the infective exhaustive group were more acute. The manic depressive cases showed a relatively large number of lacerations, misplacements and subacute or chronic inflammatory conditions, while among the cases of dementia praecox there was a large number of cases showing defect of development. Two-thirds of all the cases of arrest of development were found in the dementia praecox group and in those cases listed as imbeciles and inferiors. About fifty-three of the 103 abnormal women received treatment. The treatment consisted of conservative measures such as douches, tampons, pessaries, etc., with the result that none of the patients have seemed to grow worse as far as the mental condition is concerned, while twenty have shown various degrees of improvement, and in thirty-three cases there has not been very much, if any, change in the mental condition. Of these thirty-three cases some are still in the hospital. There was a greater improvement in the manic depressive group but this form of insanity tends toward recovery and it would seem doubtful if the recovery had been the result of the treatment, though it is impossible to state that the attack might not have been shortened by the treatment and the removal of this source of irritation.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Australasian Medical Gazette, Sydney

January 18, XXXIII, No. 3, pp. 49-72

1 Toxemias of Pregnancy. T. G. Wilson.
2 *Idem. C. T. De Crespigny.

January 25, No. 4, pp. 73-96

3 Removal of Thyroid Under Local Anesthesia. H. C. Hinder.
4 *Two Cases of Rare Skin Diseases. W. McMurray and L. Johnston.
5 Case of Anaphylaxis Following Injection of Diphtheria Antitoxin. D. G. Hunter.

February 1, No. 5, pp. 97-120

6 *Biochemistry of Symbiotic Growth of Aerogen and Anaerogen Coliform Organisms. B. Bradley.
7 Eclampsia. A. G. Cribb.

February 8, No. 6, pp. 121-142

8 *Interesting Case of Cesarean Section. H. M. O'Hara.
9 Two Cases of Arteriorrhaphy. C. MacLaurin.
10 Frequency of Micturition Cured by Ventrofixation of Uterus. W. T. Chenhall.

2. **Toxemias of Pregnancy.**—In support of the statement that lower eliminative power and lowered resistance predispose to the toxic state, De Crespigny describes two kidneys which were removed from the body of a multipara, who, previous to her pregnancy, had albuminuria, and who died in the fourth month from toxemia. The ureters and pelves were dilated from pressure of the gravid uterus. The substance was tough, the capsule adherent, and the peeled surface slightly granular; the cortex was confused, and the organs much congested; they were of normal weight. Microscopically De Crespigny could see evidence of an interstitial fibrosis on which had been engrafted acute congestion, degeneration of the epithelium of the convoluted tubules and patches of inflammatory reaction. The kidneys to the naked eye were typical examples of the "large pale kidney;" microscopically they showed evidence of subacute tubular and proliferative nephritis. In certain cases, he says, puerperal convulsions seem to be due rather to renal failure than to hepatic involvement.

The following case is cited to illustrate this point: A nulliparous woman, aged 28, had three fits during one afternoon toward the end of the eighth month. She was admitted in a comatose condition within a few hours. Parturition was induced, and the child was born dead the next day. During the next four days she regained consciousness, and had no further convulsions, but she passed only 2 oz. of urine per day, and it was loaded with blood and albumin. On the fifth day after the fits she had three more fits in rapid succession, and died in coma within four or five hours. An autopsy was performed; the liver weighed 40 oz., and presented no macroscopic abnormality. Microscopically one could see slight scattered degeneration towards the periphery of the lobules. The kidneys, however, showed acute glomerulo-tubular nephritis. They weighed 7 ounces each, and were engorged with blood. The capsules were edematous. Microscopically, the tubules were filled with breaking down red corpuscles; the collecting tubules contained blood-casts and leukocyte casts. The epithelium was degenerated in the convoluted tubules, Bowman's capsules were distended by back pressure, and the glomeruli were collapsed. There were patches of leukocyte reaction and numerous capillary hemorrhages. The uterus was in a condition of acute septic puerperal metritis.

4. **Rare Skin Diseases.**—The first case cited by McMurray was that of a male, age 10 years. The father had been affected with a similar condition since birth, but there was no history of the disease in any other member of the family. The disease appeared in the first month of life. The parents noticed that blisters appeared on the feet and arms of the child. Whenever the baby kicked, a blister appeared on the part which came in contact with the bed. The parts affected were those most exposed to pressure, namely, the legs, ankles, feet, elbows, wrists and knuckles. The blebs appeared with great rapidity and varied considerably in size. The pressure on the knuckles from playing marbles was sufficient to cause blebs as large as a walnut. The finger- and toe-nails were a[illegible] few.

epidermal cysts were present on the sites of the old lesions on the hands.

The second disease, monilethrix, occurred in a woman, age 30 years, and her two children, age 6 and 3 years, respectively. The affection occurred in the first month of life in all three cases. There was no history of any other member of the family being affected, the disease being confined to the mother and her two children. The disease began in the first month of life following a shedding of the first hair which was normal in appearance. Monilethrix is a very rare affection of the hair. The hair on the scalp of the patient is quite short, irregular, dull, lusterless, broken off and has a scorched appearance. This is especially noticeable on the occipital region, no doubt caused by rubbing on the pillow during sleep, causing the hair to fracture. The temporal regions are less affected. The eyebrows are thin and atrophic. On closer examination the hairs are broken off, and some close to the scalp at their point of exit from the follicles. This is especially noticeable on the occiput, which gives the appearance of the black dot variety of ringworm or comedones. In many places the follicles are surrounded with scaly papules as in keratosis pilaris. Microscopically the hairs show the characteristic spindle-form appearance.

6. **Biochemistry of Symbiotic Growth of Aerogen and Anaerogen Coliform Organisms.**—Bradley found that when *B. typhosus*, which is capable of producing acid on mannitol, is inoculated into mannitol-litmus-peptone water in company with *B. morgan*, No. 1; which by itself does not visibly affect mannitol media, but which produces acid and gas on glucose media, then the result of the combined action is shown by the production of acid and gas. The above symbiotic gas production occurs with similar and suitably arranged pairs of organisms when growing together in either lactose, dulcitol or arabinose. *B. morgan* is capable of producing gas from the sterile products of *B. typhosus* grown in mannitol-litmus peptone water. The conditions favoring gas production under these conditions are apparently intimately connected with, among other things, the time of incubation of the typhoid culture, and consequently with a degree of acidity. Where the acidity is artificially neutralized, there is generally noted much increased readiness of gas production, but instances are available showing that this result is not always attained, possibly the failure being due to overalkalinization.

Under certain conditions, *B. morgan*, No. 1, neutralizes the acidity of the mannitol typhoid cultures. This neutralization or reversal of reaction occurs apparently when the acidity is of slight degree. Although in most cases in which tubes showed gas formation from the unneutralized mannitol cultures, this reversal of reaction occurred; yet, as in one case gas formation was marked without reversal, and in another experiment reversal occurred, and no gas formation, it is doubtful if the autoneutralization has any definite favoring influence on the gas formation. *B. morgan*, in company with numerous other coliform organisms produces gas from 1 per cent. sodium formate peptone water. It differs from the vast majority of the coliforms Bradley has tested in its marked power of gas production from this salt. This is specially to be noted, inasmuch as the strain Bradley has produces more gas from sodium formate than do many colon organisms which produce nearly ten times as much gas from glucose as does *morgan* No. 1. The essential nature of the symbiotic effect was noted in the production of formic acid by *B. typhosus*, and its utilization by *B. morgan* to produce gas. Thus, Bradley concludes from his work, and from others quoted, that in the catalysis of sugars by gas formers, formic acid is formed and subsequently split up into gas; yet it is clear also that this process is not the only method used by all organisms. He believes that there are several processes side by side leading to similar final results.

8. **Case of Cesarean Section.**—A fibroid tumor in the lower segment of the uterus, filling up the pelvic outlet, was the obstruction to labor in the case cited by O'Hara. A cesarean section was made. After the uterus was emptied a supravaginal hysterectomy was done, removing the tumor with the uterus.

Clinical Journal, London

February 19, XLI, No. 20, pp. 305-320

11 *Septic Infection Versus Chronic Intestinal Stasis: Legality of Ileocolostomy for Arthritis. P. Daniel.

February 26, No. 21, pp. 321-336

12 Eczema, and Some Eruptions Often Mistaken for Eczema. H. G. Adamson.
13 Some Forms of Chronic Arthritis in Seamen. D. Duckworth.
14 Occlusion of Common Carotid by Metal Band. R. A. Stoney.

11. **Septic Infection vs. Chronic Intestinal Stasis.**—Daniel has learned from practical experience that chronic intestinal sepsis (i. e., "catarrh") is a very prevalent cause of constipation, and that from time to time such patients suffer from attacks of looseness of the bowel (hence the name "intestinal catarrh"), but that persistent diarrhea only occurs when definite colitis, especially sigmoiditis, supervenes. In short, sepsis first leads to stasis. Daniel is firmly convinced in his belief that the most potent factor in inducing all intestinal lesions commencing in the mucosa, and including constipation, is oral or nasal accessory sinus sepsis. To gastro-intestinal sepsis directly he attributes most osteoarthritis, while the varieties known as rheumatoid arthritis he considers are due to a combination of gastro-intestinal and genito-urinary sepsis. He agrees with Lane in accepting the widely spread evils which may arise from the disordered gastro-intestinal tract, but does not believe that the primary cause is mechanically evolved bands and kinks which lead to stasis and the stasis in turn to auto-intoxication. Daniel holds that the evil is primarily an infection, and recurring reinfection, of the gastro-intestinal tract, and is in direct proportion to the number and virulence, also to the varieties, of the infecting germs, and that all the ill-effects Lane mentions may arise without any stasis in any part of the tract. Give these patients correct treatment, i. e., cleanse their mouths, nasopharynges, antra, etc., so removing infection, give them oils, suitable laxatives and diet, and the number of cases requiring colectomy will be at once reduced to those unfortunates in whom the damage done to the mucosa has progressed to ulceration.

Daniel also disagrees with Lane as to the origin of the kinks and bands which he blames for the stasis. In common with most pathologists he attributes the formation of the bands, etc., to local peritonitis, the result of bacterial activity in the underlying hollow viscus or in the lymph tract leading from and draining its wall, which necessarily implies that bacterial infection of the mucosa is primary; since absorption of toxins does not take place through the healthy mucosa, the bands and kinks are secondary to this pathologic absorption; stasis may or may not result from the infection, therefore may or may not precede the formation of the bands, etc.

He is also totally at variance with Lane in the line of treatment he adopts in general, especially in its bearing on arthritis. He believes that if the infection is cured, i. e., the origin of the infection in the mouth and elsewhere is cured, the stasis in the vast majority of cases will tend to cure spontaneously, and if appropriately aided the patients entirely recover, i. e., they are damaged, but the stomach and intestine functionate sufficiently well, often as if the patient were normal; should bands or other grave pathologic sequelae have formed, the recovery will be partial and proportionate to the lesions. The bowel acts simply as a test-tube, but one which not only houses the bacteria, but permits the removal of their effete products, their end-toxins, to which fact is due the symptoms of toxemia. Hence, all evidence suggests that the grave constitutional symptoms which Lane attributes to stasis, a mechanical condition, are due to absorption of bacterial end-products, which takes place without stasis, and then produces just such symptoms as Lane credits to mechanical stasis.

It is Daniel's belief that typhlitis is the earliest lesion to arise in the case of intestinal sepsis, because the normal retardation in the passage of food which occurs in the cecum permits of a great concentration of the bacteria swallowed, and it is therefore especially subjected to toxic insults in which the peritoneum covering it participates, and sooner or later the appendix with its mesentery and their peritoneal covering is involved, and from their juxtaposition the two peritoneal layers readily cohere, leading to kinks, etc.

Indian Medical Gazette, Calcutta

February, XLVIII, No. 2, pp. 45-88

15 Differential Blood-Count in Dengue. W. L. Harnett.
16 Problem of Dengue, Three-Day and Seven-Day Fever. W. L. Hossack.
17 Teleologic Working Theory of Asymbiotic Relations of Malarial Plasmodium to Its Alternative Hosts—Man and the Anopheles Mosquito. N. P. O. Lalor.
18 Sanitary Organization of Army in India in War. P. Hehir.
19 Effect of Overcrowding in Barracks on Tubercular Affections Among Gurkhas. C. H. Smith.

Journal of Obstetrics and Gynecology of British Empire, London

February, XXIII, No. 2, pp. 65-128

20 Burton ("Dr. Slop"): His Forceps and His Foes. A. Doran.
21 Immunology of Pregnancy. A Review. H. L. Murray.
22 *Teratoma of Thyroid in Fetus. A. W. Russell and A. M. Kennedy.
23 Needles in Abdominal Cavity as Complication of an Hysterectomy. A. Smith.
24 *Case of Ovarian Pregnancy with Full-Time Fetus.* T. B. Grimsdale.
25 Technic of Amputation of Vaginal Cervix. V. Bonney.

22. **Teratoma of Thyroid in Fetus.**—Several important points are emphasized by the authors in connection with this case. It was associated with hydramnios, the liquor amnii measuring 14 pints. The presentation was abnormal—a brow—and there was consequent delay and difficulty in labor. This is as might be expected, proper flexion of the descending head being prevented by the tumor under the chin. The fetus was fully developed, mature and a female. Such deformities have occurred more frequently in the male and the birth has usually been premature. No hereditary influence could be discovered. The most important and interesting feature of the present case is its pathologic structure, which proves it to be a true teratoma of the thyroid. The cervical tumor formed a lobulated swelling in front of the neck about the size of a large Jaffa orange. It was situated beneath the deep cervical fascia and, vertically, in the middle line it extended from the symphysis menti to the suprasternal notch. Laterally the mass extended outward on either side of the middle line but more to the right than to the left. The sterno-mastoid muscle on the left side was flattened on the left lateral aspect of the tumor, whereas on the right side the tumor extended further out and overlapped the right sterno-mastoid muscle.

The upper margin of the tumor was bounded by the lower margin of the mandible; the lower margin of the left lobe was bounded by the clavicle, whereas the right lobe overlapped the clavicle and was situated at a lower level. Probably about two-thirds of the bulk of the tumor mass was situated on the right of the middle line of the neck.

The tumor had a distinct fibrous covering and could be more or less easily shelled out from all the structures of the neck, except the larynx, trachea and esophagus. Anteriorly three principal lobes were demarcated. The smallest one was in the middle and occupied the upper third of the mass. It was situated partly in the middle line of the neck but the greater bulk of it was to the right of the middle line. The next largest portion formed a somewhat rounded mass situated to the left of the first portion, a shallow sulcus lying between them. The third and largest portion was equal in bulk to the first two together and formed the right lobe of the tumor. It was separated from the central smallest lobe by a distinct sulcus; it formed a mass to the right of and below the central lobe and was continuous round the under surface of the latter with the left lobe. A few small knob-like lobules were evident on the surfaces of the left and the central lobes. Posteriorly the trachea and esophagus ran down on the surface of the tumor.

The tumor was definitely seen to have its origin in the thyroid and the portion corresponding to the thyroid was cystic, the cysts containing colloid or mucoid material. The tumor surrounded the trachea in front and on either side and was attached to it, and its attachment extended from the root of the tongue downward to a short distance below the thyroid cartilage. Histologic examination of several portions of the thyroid tumor showed that very little thyroid tissue was present. There was an adenomatous tissue which in many places was cystic and contained colloid material, in other places it showed numerous intracystic papillomatous growths, and the whole was supported by a fibrous tissue stroma. The epithelium of this adenomatous tissue was much richer than that of ordinary thyroid tissue. But the greater bulk of the tumor was made up of heterogeneous tissue-elements, and structures representing all three layers of the embryo were present. The tumor was undoubtedly a teratoma.

Stratified squamous epithelium was present covering a substratum of fibrous tissue containing many hair follicles representing embryonal scalp. Gland tubules, the epithelial lining of which had stratified squamous epithelium with the characters of epidermis of the embryo were present. Other gland tubules are present showing low columnar ciliated epithelium and containing mucus. A third group was lined with tall columnar ciliated epithelium and goblet-cells. Sweat glands could also be distinguished. Portions of pigmented columnar epithelium were observed and probably represent embryonic retina. Bone and hyalin cartilage were seen in places, and there was one piece showing bone developing from cartilage. Embryonic nerve tissue was present in abundance. In many places the various structures seem to be embedded in a gliomatous matrix.

Medical Press and Circular, London

February 19, XCV, No. 3850, pp. 189-212

26 **Intestinal Dyspepsia in Children.* E. Cautley.
27 Bearing of Sex on Operation in Appendicitis. H. Macnaughton-Jones.
28 Some More Surgical "Don'ts." C. H. Whiteford.
29 Vaccine Treatment in General Practice. L. Grant.

February 26, No. 3851, pp. 213-240

30 Heart Disorders and Gastro-Intestinal Tract. J. F. H. Dally.
31 Appendicitis: Plea for Immediate Operation. E. Owen.
32 Hepatic Asystole in Chronic Hydruric Nephritis. J. Castaigne.

25. **Intestinal Dyspepsia in Children.**—The treatment of this condition, Cautley says, is general, dietetic and local. In severe cases, with marked neurotic symptoms, a few days in bed is a useful preliminary. Mere local treatment is insufficient, for the malnutrition implies general ill health. Prevent physical or mental overstrain, and forbid working for examinations. Change of air and surroundings cure many cases quickly, perhaps through the mental effect, the holiday and the increased metabolism due to an open-air life. Keep the abdomen and extremities warm and dry. Attend to the teeth. Remove enlarged tonsils and adenoids, if present.

Let the diet consist of simple, regular, mixed meals. Reduce milk, if it is given in excess and dilute it. Many of these children are stuffed with milk, on account of the malnutrition, and are made worse thereby. Limit the amount of fermentable foods, sweets, jams and carbohydrates generally. It is rarely necessary or advisable to omit them entirely. Malted and dextrinized foods, and honey, are the most suitable carbohydrates. As the child improves, try porridge or other oat foods and brown bread. At first the diet should be limited to eggs, fish, meat, bacon, butter and dripping, dry toast, rusks and malted foods. Greens, passed through a sieve, and ripe fruit may be added later. New bread, new potatoes, fried fish, hot greasy foods, pickles, tubers and stringy vegetables must be avoided. Cream suits a few children, especially country cream devoid of preservatives, and is best given with stewed fruit. On the whole, Cautley prefers to rely on butter, margarin, bacon fat and beef dripping to supply the necessary hydrocarbons. Many children develop intestinal indigestion because they are stuffed with cream and cod-liver oil, on the supposition that the malnutrition may be of tuberculous origin. For the same reason they are sent to the seaside, whereas country air is much more suitable.

Give no cod-liver oil or hypophosphites. If there is constipation, especially if there is also mucus in the stools, give grey powder, or rhubarb and soda, at night, and a dose of sodium sulphate or a laxative mineral water in the morning, and prescribe a mixture of alkali, nux vomica and a vegetable bitter to be taken three times a day before meals. Mild alcoholic drinks are also useful. Other appropriate remedies are bismuth and carbonate of magnesia for diarrhea; charcoal and salol for tympanites and excess of mucus; decoction of aloes, dr. ½-i before food,

67. **Occult Blood in the Stools.**—Boas emphasizes that the only way to guard against errors from the presence of extraneous blood in the stools is to have the patient refrain from meat and fish for three or four days at least before the test is applied. He has been studying the various chemical tests in vogue to determine which is the simplest and most reliable. In the Weber guaiac test. instead of ether he uses an alcoholic solution of glacial acetic acid (acid. acetic. glaciale 25; alcohol. absol. 75). The color reaction is much prompter and more pronounced with this. But he thinks the phenolphthalin test is still better. (It was described in The Journal, Feb. 18, 1911, p. 546). In examining the stomach content he neutralizes it first with a few drops of a solution of soda or sodium hydroxid. The occult hemorrhage must be traced from day to day, systematically, to have the findings correctly interpreted. This shows whether the hemorrhage persists or subsides under treatment of the gastric ulcer. The occult blood findings thus permit control of treatment. They have demonstrated that the length of time required for an ulcer to heal varies widely in different persons. This suggests that the present routine method of treatment does not fit the cases of all alike. Not only the fact of the occult hemorrhage but the approximate amount of blood lost is also instructive, as noted in the intensity of the reactions.

71. **Electric Treatment of Obesity.**—Nagelschmidt has been using for eighteen months an electric apparatus which sets isolated parts of the muscular apparatus in rhythmic, regulated action, similar to Bergonié's work in this line since 1909. The muscles are thus exercised without fatiguing the patient. The method is proving useful in treatment of obesity, of contracture, of severe constipation and in atrophy of the muscles, in heart disease and asthma and after operations. The pulse and respiration are not affected, while even a fraction of the same muscular action under other conditions would influence them most decidedly and cause great fatigue, he says. The electric apparatus generates the special current which has been found of relief in headache, etc., and is responsible for the sensational account in the lay press that "sleep can now be turned on and off at will." Nagelschmidt's previous communication on the subject was summarized in The Journal, Nov. 2, 1912, p. 1661.

74. **Treatment of Facial Neuralgia.**—Alexander and Unger describe the technic followed in treating intolerable facial neuralgia by injecting alcohol into the gasserian ganglion. They injected the alcohol at numerous points in the ganglion with a very fine needle. By making the injections behind the first branch of the nerve, this is spared while the ganglion beyond is completely obliterated. The result was a complete cure to date (about five months) in the case related. The patient was a man of 55 with trigeminal neuralgia for eleven years when it was cured for a period of nearly four years by injection of 1 c.c. alcohol into the infra-orbital foramen. The neuralgia was then cured again by repeating the injection and again on another occasion, but it constantly recurred after a few months. The gasserian ganglion was then blocked and the cure seems permanent. The technic is described in detail with illustrations.

Correspondenz-Blatt für Schweizer Aerzte, Basel

January 25, XLIII, No. 4, pp. 97-128

75 *Cure of Tetanus by Magnesium Sulphate. (Weitere Beobachtungen über die Heilung des Tetanus mit Magnesiumsulfat.) T. Kocher. (Magnesiumbehandlung des Tetanus.) G. Arnd.

February 1, No. 5, pp. 129-160.

76 *Criminal Abortion. (Der Kampf gegen die kriminelle Fruchtabtreibung.) H. Meyer-Rüegg.

77 Medicolegal Test for Poisonous Alkaloids. (Ueber den Nachweis von Alkaloiden in der gerichtlichen Medizin.) P. Cattani.

February 8, No. 6, pp. 161-192 and Supplement

78 Gall-Stones at Basel. (Eine Basler Gallensteinstatistik.) L. G. Courvoisier.

February 15, No. 7, pp. 193-224

79 Orthopedic Gymnastic Exercises. C. Staeubli. Commenced in No. 6.

75. **Magnesium Sulphate in Tetanus.**—Kocher has applied Meltzer's method of intraspinal injection of magnesium sulphate in seven cases of tetanus, with recovery of all but one young child whose hand had been run over by a loaded wagon and who had developed an extremely serious form of tetanus the eighth day. The head, back and chest muscles were intensely contracted from the first, rendering the intraspinal injections and intubation difficult, but even in this case great relief was evident. The child succumbed finally to paralysis of the heart, and it is possible that this might have been warded off if Meltzer's dosage had been followed. Kocher never dared to inject a solution stronger than 15 per cent., but he gave up to 10 c.c. Meltzer gives only 5 or 6 c.c. of the 25 per cent. solution. Kocher remarks that the assumption of a local action by the magnesium sulphate is sustained by the fact that the position of the patient has such a decided influence on the degree and rapidity of the distribution of the action upward. By removing the pillow the effect of the drug was remarkably enhanced, even when this was not done until several hours after the injection. He noticed further rigidity of the muscles of the chest on one side coming on as the effect of the drug was passing off. Additional proof is found in the rapid action of subsequent washing out of the spinal canal and also in the fact that the drug still lingered in the spinal fluid. But the most convincing proof of the penetration of the drug into the nerve substance was the presence of magnesium sulphate in a segment of the spinal cord from the neck and in another from the lumbar region, 3.44 per cent. of magnesium sulphate being found in the latter and 1.22 per cent. in the former. This demonstrates not only the penetration of the drug into the spinal cord but also the uneven distribution at different heights, the proportion diminishing upward. By raising or lowering the head it is in our power to restrict the action of the drug to the lower part of the spinal cord or to extend it to the medulla oblongata and the brain. When the muscles of the head and chest are affected, he advocates sending the drug to act on the brain from the start.

He says that mishaps need not be feared as we have reliable measures to combat the danger from the inhibiting action of the drug on the respiration center. When the complete relaxation of the voluntary muscles accompanying the anesthesia has prevailed for a certain time. the power of the spasm-producing toxin is broken, and the irritation of the ganglion cells reduced to such an extent that the dangerous spasmodic contractions cease and merely the continuous rigidity persists; this is practically harmless. In one of his cases the profound sleep lasted for nearly twenty-four hours and tided the patient past the danger point. The spasm of the respiration muscles and center can be effectually combated by insufflation of air or oxygen. In one of his cases spontaneous respiration was restored in an hour and in others the intense inhibiting action passed off without permanent injury, confirming Meltzer's experiences. Kocher adds that it might be possible to ward off impending arrest of respiration by a prophylactic injection of physostigmin or a prophylactic tracheotomy. The magnesium sulphate acts only while it is in direct contact with the substance of the spinal cord and nerve tissue. This is a disadvantage as the injection must be repeated when the drug disappears from the nerve tissue, as manifested by the subsidence of its effect. On the other hand, it is a great advantage to be sure that no permanent injury is left. The estimation of the effect and whether more injections are needed, is based on the recurrence or absence of further paroxysms. These constitute the main danger; while continuous stiffness, without interference with the respiration, is not dangerous. It may persist for days or weeks before gradually subsiding. Another point to which Kocher calls attention is the higher pressure in the spinal fluid after the injection. He regards this as a phenomenon of osmosis and as directly beneficial, the fluid pouring into the subarachnoid space having a detoxicating action. In one case he found that spasmodic contraction of the urethra prevented the introduction of the catheter; during the relaxation that followed the injection of magnesium sulphate the obstacle to the introduction of the catheter disappeared.

Arnd discusses the history of this method of treating tetanus to date, emphasizing that it should be only an adjuvant to serotherapy. The dosage is the great problem at present and some better mode of administration may yet be found. The inefficiency of the isotonic solution has not yet been established, nor whether the drug attaches itself to the meninges or the cord itself. The circumstance that it can be rinsed away shows that the affinity is slight. This much is certain, however, he adds, that this method of treating tetanus should be a routine measure in hospitals in all except the mildest cases.

76. **Criminal Abortion.**—Ruegg concludes his appeal for a fight all along the line against criminal abortion by saying that it is a source of depopulation far surpassing in importance all epidemic diseases. The state has every reason to fight it for the preservation of the nation. He adds that the public conscience should be trained to deprecate the induction of abortion. Medical men in general can help in this line by cultivating a deeper respect for germinating life.

Deutsche medizinische Wochenschrift, Berlin

February 20, XXXIX, No. 8, pp. 345-392

80 The Pharmacologic Basis for Bromin Treatment in Genuine Epilepsy. H. v. Wyss.
81 Roentgen-Ray Treatment of Tuberculous Focus. (Entgiftung des tuberkulösen Herdes durch Röntgenbestrahlung.) H. Iselin. First part in No. 7; abstracted in preceding issue.
82 Disease of Blood-Producing Organs. (Einige seltenere Fälle von Erkrankungen der blutbereitenden Organe.) A. Plehn.
83 *Acute Syphilitic Nephritis Soon After Infection. (Nephritis syphilitica acuta praecox.) E. Hoffmann.
84 Diphtheria Antitoxin Refound in Serum, and Proper Dosage. (Nachweis von Diphtherieantitoxin im Blutserum der damit behandelten Kranken, und Dosierung des Heilserums.) C. Schöne.
85 Dubious Findings with Blotting-Paper Capillary Test for Free Acid in Stomach Content. (Kapillaranalytische Bestimmung der freien Salzsäure im Magensaft.) H. Schmidt.
86 Copper Sulphate Test for Urobilin. T. Hausmann.
87 Resection of Wall of Thorax Under Insufflation Anesthesia. (Thoraxwandresektion mit Meltzerscher Insufflation.) O. Nordmann.
88 Injury of Eyes by Light. (Veränderungen und Schädigungen des Auges durch Licht.) F. Schanz.
89 Technic for Overcoming Defect in Singing Voice. (Deckung des Gesangstones.) R. Schilling.
90 Technic for Tonsillectomy. (Die Tonsillenexstirpation, ihre Gefahren und deren Bekämpfung.) M. Halle.
91 Adenoma of the Umbilicus. (Zur Kasuistik und Histogenese der Nabeladenome.) A. Zitronblatt.
92 Blood-Pressure in Diphtheria. (Zur Frage der praktischen Bedeutung der Blutdruckmessung bei der Diphtherie.) J. M. Brückner.
93 *The "Human Aquarium." W. Sternberg.

83. **Early Syphilitic Nephritis.**—Hoffmann reports two cases of acute syphilitic nephritis and remarks that he has encountered only six cases of any severity in his many years of practice. It is distinguished by the enormous proportion of albumin in the urine (3, 8, 13 per cent.). It generally develops during the period of eruption, possibly even before the roseola. It may appear with sudden edema and dropsy or develop insidiously. Spirochetes in the urine sediment clear up the diagnosis. The ordinary treatment for kidney trouble is not enough; specific measures are required.

93. **The "Human Aquarium."**—Sternberg describes his examination of a circus freak who is able to drink up to seven quarts of water at a time and expel it through his mouth at will without any evidence of nausea. He also swallows live frogs and fishes and expels them in the same way. His father and grandfather had this same faculty of being able to ingest and expel large quantities of fluid at will. Sternberg noticed that the young man swallowed the ten frogs first and also expelled them first. Roentgenoscopy showed the stomach apparently normal in every respect.

Medizinische Klinik, Berlin

February 16, IX, No. 7, pp. 241-280

94 Dementia Praecox. (Ueber Schizophrenie.) E. Stransky. Concluded in No. 8.
95 Alcohol in Fatigue. (Zur Kenntnis der essentiellen Ermüdung und ihrer Therapie durch Alkohol.) C. Widmer.
96 Pseudo-Appendicitis. (Appendicopathia oxyurica.) L. Aschoff.
97 Poisoning from Pudding. (Vanillespeisevergiftung.) A. Eisenheimer.
98 *Cholesterin in Treatment of Paroxysmal Hemoglobinuria. J. Pringsheim.
99 Gynecology and Psychiatry. J. Peretti.
100 A Dose of 1.8 gm. Phenolphthalein Did Not Hurt Child. F. Orland.
101 Fever-Producing Property of Casein. (Die pyretogenische Wirkung des Caseins aus Kuhmilch.) L. E. Holt and P. A. Levene (New York).

98. **Cholesterin in Paroxysmal Hemoglobinuria.**—Pringsheim's patient had been given previously a thorough tentative course of mercurial treatment but without effect on the hemoglobinuria. As cholesterin seems to have an inhibiting action on hemolysis in the test-tube, Pringsheim applied it to arrest the paroxysmal hemoglobinuria and found that it did actually abort the attacks and ward them off as long as the system was under the influence of the cholesterin. On its suspension the attacks recurred as before. He gave the cholesterin in five intramuscular injections of 5 c.c. each time of a 10 per cent. emulsion of cholesterin, in the course of eleven days. Exposure to the same cold and other external influences which before had brought on a severe attack of hemoglobinuria for eight or ten hours, induced only a slight elimination of hemoglobin, lasting only two and a half hours. Another time the characteristic chill and fever followed the exposure but there was no hemoglobinuria. A week after suspension of the cholesterin the same exposure brought on a severe and typical attack. No appreciable changes could be detected in the blood during the cholesterin treatment. The patient had no complement in the blood, but the complement from healthy blood showed no influence from cholesterin.

Monatsschrift für Kinderheilkunde, Berlin

XI, No. 9, pp. 421-454

102 Eosinophilia in the Exudative Diathesis. A. Benfey.
103 *Acute Poliomyelitis in Norway. A. Johannessen.
104 Hyperpyrexia in the Rectum in Children. (Ueber rektale Hyperthermie im Kindesalter.) E. Moro.
105 Use of Opiates in Childhood. (Ueber die Verwendung von Opiaten im Kindesalter.) E. Döbeli.

103. **Poliomyelitis in Norway.**—Johannessen reviews the history of poliomyelitis in Norway since the first known epidemic in 1868, and summarizes the present knowledge of it as expressed in the public health measures for its control: 1. Isolation of patients in the acute stage for three weeks. 2. Especial care with regard to the nasal secretions as well as other secretions and excretions of the patient. 3. Disinfection of all articles that come in contact with such secretions and excretions. 4. Especial attention to the transmission of the infection by healthy persons and abortive cases, particularly patients with angina. 5. Every new case is to be reported and the report must contain all possible information in regard to the etiology and development of the disease. 6. Schools in severely infected localities must be closed and children from infected houses must be forbidden to go to school for a certain length of time. Money has been appropriated by the Norwegian parliament for a systematic study of the disease and experiments on monkeys to determine its etiology.

Münchener medizinische Wochenschrift

February 18, LX, No. 7, pp. 337-392

106 The Mobilization of Glycogen. E. J. Lesser.
107 *Tubercle Bacilli in the Blood. (Auftreten virulenter Tuberkelbazillen im Blut nach der diagnostischen Tuberkulininjektion.) Bacmeister. (Zum Nachweis der "Tuberkelbazillen" im strömenden Blut.) E. Kahn. (Tuberkelbazillennachweis im Blut.) Kessler.
108 Simplified Moving Pictures of the Stomach. (Vereinfachte Magen-Bioröntgenographie.) K. Kaestle.
109 High Frequency Current for Operating on the Bladder. (Ueber Operationen im *Blaseninnern mit Hilfe von Hochfrequenzströmen.)* G. Bucky and E. R. W. Frank.
110 Mixed Anesthesia. (Aethertropfnarkosen nach vorheriger Injektion von Pantopon-Atropinschwefelsäure.) E. Kisch.
111 Determination of Uric Acid and Purin Bodies in the Urine. L. Flatow.
112 Two Cases of Severe Intoxication from Neosalvarsan. (Neosalvarsanvergiftung.) P. Wahle.
113 Toe Substituted for Finger. (Ersatz von Finger- und Zehenphalangen.) W. Goebel.
114 Action of Gold Salts Injected Intravenously. (Wirkung von intravenösen Infusionen mit Aurum-Kalium cyanatum.) W. Heubner.

115 Substitutes for Coffee. (Die wirksamen und werthvollen Bestandteile des Kaffeegetränks mit bes. Berücksichtigung des koffeinfreien Kaffees Hag und des Thumkaffees.) K. B. Lehmann. Commenced in No. 6.

107. **Tubercle Bacilli in the Blood After Injection of Tuberculin.**—Baemeister states that no tubercle bacilli were found in the blood in his first research and he discovered that the structures which seemed to be typical acid-fast bacilli were not bacilli at all in numbers of cases. The pseudobacilli can be found in nearly every specimen. At the same time, positive animal experimentation has demonstrated that true tubercle bacilli inhabit the blood much more frequently than had been suspected until Liebermeister's recent research. Baemeister obtained constantly negative results on inoculation of animals with the blood from fifteen patients but after a diagnostic injection of tuberculin he tested the blood again, drawn from twelve to twenty-four hours afterward, at the height of the reaction. Four of the animals inoculated at this time developed tuberculosis. The four patients from whom the material had been derived presented a pronounced local reaction in the focus to the tuberculin injection. The temperature did not run up very high but the focal reaction was marked. This fact that we are unable to foresee or control the extent of the focal reaction should warn against the indiscriminate application of the subcutaneous tuberculin test. No serious results were observed; the temperature soon subsided. The tubercle bacilli thus driven out of the focus into the circulation may have been destroyed or they may have settled down somewhere and are leading a latent existence.

Kahn reports research in this line which has confirmed the absolute unreliability of the microscopic findings in the blood. Inoculation of animals is the only instructive test.

Kessler says that the test for tubercle bacilli can be applied to coagulated blood as he describes in detail. He draws 0.5 or 1 c.c. blood into a capillary tube and seals it at both ends. When ready to apply the test, the ends are cut off, the thread of blood drawn out and placed in a tube with a knife-tip of trypsin and 1 c.c water. It is shaken up for a few times and by the end of the hour the blood is dissolved. Then the ordinary technic is applied and after centrifugation the specimen is ready for use.

Petersburger medizinische Zeitschrift

February 14, XXXVIII, No. 3, pp. 29-42

116 Hypertrophy of the Heart. (Ueber Herzhypertrophie.) A. Bertels.
117 Report of the Russian Uterine Cancer Commission. G. v. Knorre.

Zentralblatt für Chirurgie, Leipsic

February 22, XL, No. 8, pp. 265-296

118 Flap from Stomach Wall for Plastic Operation on the Esophagus. (Oesophagusplastik aus der Magenwand.) J. Galpern (Twer, Russia).
119 Modified Technic for Jianu-Roepke Gastrostomy and Plastic Esophagus Operation. (Vorschlag bezüglich der Gastrostomie und Oesophagoplastik nach Jianu-Roepke.) Willy Meyer (New York).
120 Improved Technic for Suturing Abdominal Wall. (Die Rekonstruktion der Bauchdecken.) F. Schultze.
121 Subserosa Appendicectomy. F. Dergane.

Zentralblatt für Gynäkologie, Leipsic

February 22, XXXVII, No. 8, pp. 265-296

122 Application of Active Principles of Ergot in Obstetrics. (Versuche zur Verwendung des Beta-Imidazolyläthylamins in der Geburtshilfe.) F. Jaeger.
123 Necessity for Dorsal Decubitus after Birth of Head. (Seitenlage intra partum und "endogene" Infektion.) F. Westphalen.
124 Obstetric Laceration of Roof of Vagina. (Kolparrhexis sub partu.) E. A. Bjorkenheim.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 13, XXXIV, No. 19, pp. 193-200

125 Fracture of Fibula or Femur with Large Defect. (Due rari casi di traumatologia.) F. Bindi.

February 16, No. 20, pp. 201-216

126 Adrenal Organotherapy. (Apparato surrenale e forme convulsive con speciale riguardo all'epilessia.) T. Silvestri.

Semana Medica, Buenos Aires

January 23, XX, No. 4, pp. 189-252

127 Tumors of the Nose and their Treatment. (Estudio de algunos tumores nasales.) J. de la Cruz Correa.
128 Questions of General Biology. V. Delfino.
129 Reducing Power of the Liver. (El poder reductor del higado.) O. Fernandez.
130 *Indications for Prostatectomy. (Nuevas orientaciones para la prostatectomia.) N. Serrallach.
131 *Grave Danger from Sudden Change of Position in Febrile Diseases. (Peligro en las enfermedades febriles del paso brusco de la posicion horizontal a la vertical.) S. Leduc.

130. **Prostatectomy.**—Serrallach insists that for prostatectomy to be a complete cure of all disturbances, the prostate must be freed from irritating influences from the adjacent sexual organs. He therefore urges the necessity for ligation of the vasa deferentia and severing of all connection between the prostate region and the genital organs, obliterating the functions of the latter. They are usually already compromised beyond repair, and their complete functional destruction is the only means to ward off recurrence of trouble.

131. **Dangers of Abrupt Change of Position During Fever.**—Leduc warns that when a reclining person sits up suddenly, the heart bumps against the column of blood below it. In health the heart yields, the column of blood sinks down, the blood flows out of the vessels in the brain and there may be dizziness from the anemia in the brain. If the myocardium is weak, it may not be able to stand the sudden strain on it from this change of position. He has had five patients with pneumonia die just as they were raised to a sitting position. Other physicians have observed the same. Replacing the patient in the horizontal position at once may relieve, but the heart has been given a strain from which it may never recuperate. When a febrile patient sits up in bed, the pulse almost always runs up and grows weaker—the changes more pronounced the graver his condition. He should always be raised very gradually to the sitting position. By absolutely forbidding the patient to sit up during an acute febrile disease, Leduc adds, the physician renders him a greater and more certain service than he can possibly render by prescribing all kinds of heart tonics.

Hospitalstidende, Copenhagen

February 12, LVI, No. 7, pp. 153-184

132 *Benzol in Treatment of Leukemia. K. Jespersen.

February 19, No. 8, pp. 185-208

133 Experiences with Treatment of Concomitant Convergent Strabismus. E. Lindgren.

132. **Benzol in Leukemia.**—Jespersen reports a case of very severe myeloid leukemia in a man of 32, rebellious to all measures, including 100 exposures to the Roentgen rays. The man was extremely emaciated and entirely helpless, with fever and hemorrhages, when the benzol treatment was begun. The tenth day the number of leukocytes had dropped from 250,000 to 61,000 and the general condition showed marked improvement. The leukocytes dropped finally to 5,000 while the reds had increased from 2,000,000 to 3,500,000 and conditions gradually righted themselves until the man considered himself cured and returned to business. It is possible that the preceding radiotherapy may have prepared the way for the benzol. The prompt and remarkable improvement under it did not last long. Then the disease flared up again, the leukocytes ran up to 750,000 and the pernicious type of red corpuscles made their appearance. The patient died the twenty-third day after recurrence of symptoms. The dosage of benzol had never been over 5 gm. a day.

Ugeskrift for Læger, Copenhagen

February 13, LXXV, No. 7, pp. 291-324

134 The Four Diagnostic Reactions. (Nonne's fire Reaktioner.) A. Bisgaard.
135 Case of Rupture of the Liver. (Ruptura hepatis.) T. Eiken.

February 20, No. 8, pp. 325-362

136 Case of Generalized Gonococcus Infection with Keratosis. O. Haslund.

The Journal of the
American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. LX, NO. 14 CHICAGO, ILLINOIS APRIL 5, 1913

LIGNEOUS PHLEGMON OF THE ABDOMINAL WALL *

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It is probable that this disease has been observed under some name or form more frequently than has been reported. Prior to Reclus' publication and report, in 1893, of five cases which he denominated ligneous phlegmon of the neck, nothing seems to have been known of this severe, protracted and still little understood disease. Since that time professional interest has been enlisted and broadened, and in the last five or six years, especially, substantial additions have been made to the subject in case reports and contributions. Still the literature, though it is interesting and instructive, is not replete in quantity, nor entirely satisfactory as to etiology, bacteriologic findings and treatment.

These reports and investigations lead the way to a final explanation of the disease, which at the present time is the most interesting and unusual, if not curious and erratic, manifestation of infection, or inflammation, with which we have to deal. Surgical text-books, such as Lexer and Bevan, Keen and Dacosta, have very brief allusions to the subject, which are not of much value because little of a definite character was known when the articles, though of recent date, were written. It is now known that, though observed more frequently in the neck, it may occur in any part of the body.

The periodical literature is more recent and valuable and is worthy of attentive consideration. The article by Powers of Denver[1] on "Woody Phlegmon of the Neck" (Reclus), with a report of three or four cases, read before the Section of Surgery of the American Medical Association at Los Angeles in 1911, is a valuable contribution and interesting in its full bibliography. A case was reported later in the year by Panzer.[2]

An examination of the literature of the past year reveals but a few cases, and if we except those occurring after herniotomy, there remain but two or three cases of phlegmon of the abdominal wall. The report of E. Wyllis Andrews[3] on "Desmoids Following Herniotomy" probably refers to woody phlegmon.

In 1912, Todd, of St. Joseph, Mo.[4] reported a case of woody phlegmon which occurred in a young woman and was supposed to be due to trauma from a fall occurring in May, 1909. A tumor developed and was first observed in March, 1910. May 16, 1911, the central part of the tumor was removed, with no substantial or permanent improvement. The clinical record showed a loss of weight of 21 pounds in one year; partly on account of this and failing strength a diagnosis of sarcoma was made. Further observation of the case showed this to be an error, while the pathologic report showed only inflammatory changes in the muscle, with a large amount of granulation tissue, lymphoid plasma cells and polymorphonuclear leukocytes, complicated with "tiny abscesses." The abdominal wall was extensively involved. During the course of the disease, none of the usual signs of inflammation were present, only progressive, indurated, board-like swelling with sharply defined edges. Finally after two years, staphylococcic vaccines were used, but the administration and effect were not reported. The patient was reported well after two and one-half years. The history and progress were quite typical of this disease. No specific germ or known constitutional disease was discovered or believed to exist in the case.

In the last year or two, the Italians seem to have been the most active in the investigation of the disease. In 1912, Fasana[5] reports twelve cases of ligneous phlegmon; two of the cases occurred during the progress of chronic appendicitis and were presumably in the abdominal wall; others occurred in the gluteal region, foot, etc. "Predisposing causes were bad health and trauma. Such hard masses in the abdominal wall may be mistaken for malignant disease. The only pathognomonic sign is extreme hardness, diffuse or nodular; the skin is not early involved; pain, tenderness and fever are usually slight. The diagnosis is extremely difficult even where such a condition is suspected. Time alone can clear the matter up. The greatest difficulty is to differentiate from malignant tumor, which is important as to operation. Hyperleukocytosis favors phlegmon. Slow absorption or final suppuration may take place."

In 1912, Guasoni[6] reported a case in a man aged 52. His personal history was negative. He was operated on for oblique inguinal hernia of the left side. "Over a month after leaving the hospital, the patient noticed a hard swelling at the upper end of the operative scar. It grew to the size of a turkey egg, extending downward and toward the median line. He was treated for a month with cold applications and x-rays. The swelling softened a little but there was no change in the size, and no area of tenderness or fluctuation. The growth was excised and the patient went home well in three weeks. There was no pus. Histologically, there was an inflammatory new growth with polymorphonuclears and

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* Read before the Chicago Medical Society, Feb. 19, 1913.

[1] Powers, Chas. A.: Woody Phlegmon of the Neck (Reclus), THE JOURNAL A. M. A., July 29, 1911, p. 365.

[2] Panzer, E. J.: Woody Phlegmon of Reclus, THE JOURNAL A. M. A., Nov. 25, 1911, p. 1762.

[3] Andrews, E. Wyllis: Desmoids Following Herniotomy, read before Western Surgical Association, December, 1910.

[4] Todd, Luther Anson: Obscure Infiltration of the Abdominal Wall, Jour. Missouri Med. Assn., February, 1912.

[5] Fasano: Flemmone ligneo et tumori infiammatori, Gazz. d. osp., Oct. 27, 1912, p. 1345; abstr. THE JOURNAL, Nov. 30, 1912, p. 2013.

[6] Guasoni: Case de flemmone ligneo, Policlinico, 1912, No. 43, p. 1553.

plasma cells. Bacteriologically, there were small Gram-negative cocci, with no characteristic grouping. In broth culture they increased in size and the grouping was more characteristic of staphylococci."

Consentino[7] reports four cases, two in patients aged 57 and 46, following hernia operations. In these there were swellings, fibrous and immovable, large as a lemon, not well defined and non-adherent to the skin. There was little fever. Pain and swelling were manifested ten days to two weeks after operation. Patients were confined to bed three or four weeks and treated by hot applications of normal salt solution, which diminished the pain and induced some decrease of swelling. There was no suppuration, and no incision of inflamed mass in either case. Convalescence lasted two or three months. The other cases reported were stomach cases. I have purposely omitted any reference to these cases for the reason that the clinical history and pathology of such cases do not, with our present knowledge, seem consistent with the better and more conclusive evidence concerning woody phlegmon of the neck and abdomen.

In 1910, Duse[8] contributes a case as follows: There was nothing of importance in previous history. A boy of 15 was operated on for inguinal hernia of both sides. Infection followed and two and one-half months after suppuration had subsided, a hard mass the size of a dollar developed in the abdominal wall in the left upper quadrant; it did not involve the site of the operation. It increased slowly in extent; was incised early and only blood was found; healed promptly with no effect on the growth; skin adherent; no pain and very limited movement on manipulation; no enlargement of lymph-nodes. After a month of absorbent treatment without effect, incision was made the full length of the growth; no pus was found but a pale rose-colored fluid was discharged. The wound healed primarily. Tissue removed for histologic examination showed inflammatory new growth with some leukocytes and many plasma cells. Cultures showed small, white, Gram-negative staphylococci, which produced no effect on animal inoculation. The patient left the hospital with general and local conditions unchanged. The author states that in previous studies many varieties of bacteria have been reported: Klebs-Loeffler, pseudodiphtheria, streptococci, *Bacillus proteus*, staphylococci, white and yellow—all of attenuated virulence. He concludes that there is no specific bacillus. Vaccines are not mentioned.

Accompanying Duse's contribution is quite a complete foreign bibliography extending from 1893 to 1909. With his experience, study and general knowledge of the subject, his observations especially should be worthy of respectful consideration, as those of others are in a more limited way.

I present a report of two cases, both of the abdominal wall:

Case 1.—J. M., aged 72 years. Good personal history. I operated on him for right inguinal hernia, Sept. 25, 1910. After two weeks he left the hospital for home and developed a slight infection due to a linen stitch which I applied at the internal ring. The hardness and swelling were out of all proportion to the extent or degree of suppuration. It covered an area of 3 inches transversely and extended above and to the full length of the incision. The skin was red and dusky.

I reopened the wound its full length and removed the stitch. The tissues were red, solid and compact as a piece of beef; this and the unusual hardness and appearance attracted special attention. It healed rapidly and perfectly, and the swelling and hardness gradually disappeared in the course of three months long after he had returned to his business and his general health had been restored.

Bacteriologic studies were made and demonstrated staphylococcic bacteria. I regarded it as an unusual and protracted form of inflammation due to stitch infection. I had seen nothing resembling it in the postoperative history of herniotomy and did not understand it. It was undoubtedly a case of woody phlegmon and it is an interesting fact that it did not prevent the perfect success of the operation and that the patient has remained well up to the present time.

Case 2.—G. K., aged 52 years, married. Occupation, railway engineer. No constitutional infection at any time and no local trouble previous to the attack of appendicitis. The following history to the date of his coming to Denver was given by his attending physician, Dr. F. H. Smith of Goodland, Kansas.

March 26, 1911, the patient was taken with an acute typical attack of appendicitis, severe colicky pains, becoming localized in the right iliac fossa within twenty-four hours; temperature was 103 and pulse 106. These symptoms continued for four days, when all symptoms decreased in severity; temperature 100 and pulse 90. His condition gradually improved until April 21, when he was able to sit up. No operation.

May 11, he visited the physician's office; temperature was normal but the tenderness over the appendiceal region was still marked.

June 4, he suffered a second attack of appendicitis of moderate severity, which lasted two or three days. No operation. He recovered sufficiently by the latter part of the month to resume his duties and worked through the summer as an engineer, but was never well.

September 4, he consulted his physician, complaining of painful micturition. During the examination, the physician observed on palpation a hard oval tumor the size of an orange in the lower abdominal wall, the larger part to the right of the median line and seeming to dip into the pelvis. It continued to increase in size and September 25, the patient walked into my office in a stooping position after a ride of six hours on the train.

An immediate examination revealed a large mass of the lower abdomen, covering the right hypogastrium a little more fully than the left, extending to the umbilicus and seemingly fixed to the pubis. The mass was not adherent to the skin and moved freely from side to side with the abdominal wall. Its outline was well defined, and it felt just as hard as a large uterine fibroma, differing in the important particular that it could be moved only with the abdominal wall. It could not be indented with finger pressure. Necessarily one would connect it with the history of appendicitis and suspect deep-seated suppuration, though palpation gave no evidence of it.

I had seen nothing like it and was not able to say that it was not connected deeply with the appendix, or some other intra-abdominal viscus. I sent him immediately to St. Luke's Hospital, and Sept. 25, 1911, operated by making a free incision into the most prominent part of the mass to the right of the rectus muscle. At a depth of 2 inches, I opened a small circumscribed abscess containing a tablespoonful of thick, creamy, non-offensive pus; thinking it might lead to another abscess, I explored the wound carefully, forcing my finger deeper through the hard tissues, but careful not to enter the peritoneal cavity. I then introduced conical pressure forceps through the mass, spreading the handles, but only moderate venous hemorrhage was encountered. I immediately made an incision to the outer side of the left rectus and used the forceps in the same manner and with the same result. The wounds were packed with iodoform gauze and the abdomen dressed with gauze, cotton and bandage. The patient's temperature on entering the hospital was 98½. Urinalysis showed no casts and only a few epithelial cells and pus-corpuscles. He was in the hospital a month and only once or twice did his temperature reach 101; it ranged from 98½ to 100, usually 98½ to 99½, and pulse 80 to 100. Following the operation, there was a rather free serosanguineous discharge, seldom any pus.

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[7] Consentino: Contributo allo studio del flemmone ligneo di Reclus, Policlinico, 1912, Surg. Sect., pp. 145-176.

[8] Duse: Contributo allo studio del flemmone ligneo di Reclus, Gazz. d. Osped., 1910, xxxi, 625.

The mass diminished perceptibly in size for a week following the operation and then increased again, following especially the course of the rectus muscles upward and the oblique on the right. I had considered the question of malignancy, syphilis and tuberculosis, but neither appealed to me as applicable to the case. The Wassermann and tuberculin tests were negative, and the report of the pathologist settled the former. Pus and a slice of muscle were taken from the side of the wound for examination. The report of the pathologist, Dr. Philip Hillkowitz, which follows, shows only the ordinary products of inflammation:

"Sections from the tissue removed from the wound revealed an extensive round-cell infiltration, and the presence of numerous young fibroblasts and newly formed blood-vessels. The muscles show advanced degeneration. There is no evidence of a neoplasm, the appearance being that of an inflammation with characteristic granulation tissue. Smears from the exudate as well as cultures taken therefrom show the presence of *Staphylococcus pyogenes aureus.*"

Anxious to settle more definitely the nature and extent of the difficulty and especially its relation to the viscera, I opened the abdomen in the middle line above the umbilicus Oct. 9, 1911. The fascia cellular tissue and peritoneum were closely adherent and hard. There were no adhesions (not even to the omentum), with the exception of some about the cecum, but there was no abscess nor mass about it and the appendix was not looked for. With one hand in the abdomen and the other outside, I moved the anterior abdominal wall laterally in both directions. This demonstrated that the disease was confined to the walls of the abdomen and justified the opinion that it was ligneous phlegmon, due to appendicitis and the general depreciation of health in consequence. The condition seemed undoubtedly infectious.

I was anxious to give the vaccines a trial and failing, on account of unsatisfactory material from the wound, to get the autogenous, I concluded to use the stock vaccines. The patient was sent home soon after this. As the mass increased in size, the pain was more marked. I advised his physician to give first, a few doses of the colon bacillus vaccine, on the theory that the colon bacillus was at least the chief infective bacterium in the early history of the case.

Commencing Dec. 26, 1911, and continuing until Jan. 18, 1912, eight doses were given by Dr. Smith, beginning with two hundred million and increasing to four hundred million of colon bacillus vaccine. After this I advised the injection of mixed staphylococcic vaccines every five to seven days, the dose to be determined by the reaction. The report follows:

The tumor was again increasing in size; the wounds were mopped out daily with tincture of iodin when the discharge of pus was free, and as it subsided, every second or third day. The tumor remained stationary until Dec. 20, 1911, when it again began to increase in extent and to become more painful, requiring an occasional dose of morphin for relief. The effect of the colon vaccine on the growth or mass was imperceptible except for marked relief from pain, and increased appetite.

Jan. 18, 1912, the colon bacilli injections were discontinued. The reaction was not marked. Soon afterward, an abscess pointed to the right of the umbilicus and was opened by Dr. Smith through a small incision and discharged freely. The mixed staphylococcic vaccines, beginning with one hundred million and increasing to one billion, were now injected directly into the tumor mass; temperature was 103 from the first and 105 from the second injection into the tumor, and this was followed by vomiting. The next morning, the patient felt fine and had no pain, though the discharge was profuse from all wounds. These injections were all made into the indurated, inflamed mass. After the third dose, the swelling and hardness commenced to disappear perceptibly. The injections were continued at intervals of three or four days until April 23, 1912. The reaction from injections became steadily less until hardly perceptible when discontinued.

The patient's appetite and strength improved rapidly, and he walked about daily, except when the injection was given. The discharge soon diminished under this treatment, though increased at first. When the treatment was discontinued, the patient having taken eight of the colon bacillus and thirty-nine of the staphylococcic vaccines, there remained unhealed only a small fistulous tract from the first incision with only a small quantity of serosanguinolent discharge, and the mass had almost entirely disappeared, except for a small, hard lump surrounding the fistulous opening.

The patient is presented and examination finds him in excellent general health and the abdomen perfectly normal, except for a small lump at the site of the first incision. All wounds are closed.

DIAGNOSIS

The diagnosis has been regarded as exceedingly difficult, especially at an early period. The differential determination has been as to epithelioma, sarcoma, actinomycosis, syphilis and tuberculosis. Schmincke believed it cancerous, but this theory, endorsed by Lang, if not abandoned, doubtless soon will be. In the future, with experience and greater familiarity with reported cases, there should be little difficulty in eliminating the diseases mentioned at an early period in the history of a case.

Patient after operation for woody phlegmon

With existing knowledge, I believe we are justified in concluding that the disease occurs generally after middle life and when resistance has been impaired by previous ill health. The immediate exciting cause is a slow, infective process, with or without trauma. The dictum of Reclus that it is not due to specific bacteria, but is due to a variety of germs of lessened virulence, seems confirmed by subsequent bacteriologic and histologic investigations. That it is not cancer or any form of neoplasm, but a gradual, slow, degenerative inflammation affecting connective tissue, fascia and muscles and finally the skin, seems evident. The lymph-nodes are not usually affected. The chief offending agency is probably mixed staphylococci of weakened virulence. The usually slow development, interrupted and protracted course, and final resolution are characteristic. Hyperleukocytosis always exists. The duration is indefinite, but is usually from several months to two or more years. Under more prompt diagnosis and more favorable treatment, convalescence and cure will doubtless be accomplished at an earlier date.

TREATMENT

Treatment of the past has been empirical and naturally, under the circumstances, not based on any scientific fact or principle.

Keen[9] says "treatment has little or no effect."

Dacosta[10] says "the disease is always dangerous and frequently fatal. Extirpation not feasible."

Lexer and Bevan[11] say that "quicker results are obtained by incision and exposure of intermuscular spaces as bacteria are removed with the wound secretion."

Treatment has been chiefly of a character to promote suppuration; namely, incision and hot, moist applications. Patients have seemed to derive some comfort when free suppuration existed, but ordinarily, it is of short duration and how it benefits I do not understand. Free sanguinolent effusion is common, and free incision should aid greatly, it would seem, in the relief of tension as well as for drainage.

Powers quotes with approval the suggestion of Friedrich in favor of wide excision. In certain cases I regard this as well-nigh impossible, and as unjustifiable surgery in most cases, unless of a small, distinctly circumscribed mass that is no longer acute. Furthermore, if feasible, it would be indefensible because a needless sacrifice of important tissues, especially of fascia and muscles. If the abdominal wall is the vulnerable part, excision of any magnitude would be a serious impairment of its functions, and would invite and probably result in hernia that would be difficult to cure. Furthermore, evidence is wanting that radical excision would materially influence the course of the disease.

In the second case I report, excision would not have been considered for a moment. Vaccines have been used but little. In my case, affecting extensively the abdominal walls, the injection of serum directly into the mass was, after incision, the most important and promptly effective measure used. I believe the mixed staphylococcic vaccines, the autogenous preferred, injected into the hardened tissue, the most promising therapeutic agent at our command.

I predict that the disease will be cured more quickly and completely by free incision (not excision) and serum treatment, than by any or all other means known at the present time. The disease is not so fatal or perhaps so dangerous as some surgeons have evidently believed, but its inveterate and disabling character invites the ingenuity and skill of every surgeon who has to deal with a severe or serious case.

The prognosis is in the main favorable, and the tendency is to a favorable result ultimately, but the course of the infection is vacillating, with recessions and an increase in inflammatory conditions, and resulting pain and discomfort and prolongation of the disease. As it is known to follow infectious diseases, such as appendicitis, it must be regarded as an additional reason for removing the diseased appendage and every other focus of infection at the earliest possible date.

930 Pennsylvania Avenue.

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[9] Keen: Woody Phlegmon, Keen's Surgery, iii, 298.
[10] Dacosta: Wooden Phlegmon, Modern Surgery, p. 131.
[11] Lexer and Bevan: Woody Phlegmon, in General Surgery, p. 277.

No Medical Training Required to Prescribe Proprietaries.—The organ of the N. A. R. D., *Monthly Therapeutic Notes*, remarks: "Don't ever get away from the fact that when you prescribe a secret preparation you are not acting in the capacity of a physician, for any layman can read a circular of testimonials and order a nostrum."

A NEW METHOD OF SHORTENING THE ROUND LIGAMENTS

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MERIDA, MEXICO

The problem of retroversion and uterine prolapse has been covered so thoroughly at various times by the leading gynecologists, that the subject is not to be taken up in this article.

After careful study I found that all of the several methods employed in the shortening of the round ligaments, either to correct retroversion or as an aid in the treatment of uterine prolapse, were deficient, presenting several disadvantages which made me seek for a better operative procedure.

It is well known by all who practice gynecology that the so-called Alquié-Adams-Alexander operation as well as its modifications, Edebohls', Newman's, Goldspohn's, Martin's, Duret's, Kellogg's, Doleris', Cassati's and others, utilize merely the distal half of the ligament, leaving the resisting and more powerful proximal half to support the uterus; all have the disadvantage, however, of leaving unaltered the point of emergence of the ligament through the anterior abdominal wall, being ineffectual in supporting the uterus, as the level of the internal ring remains lower than the proximal end of the ligament.

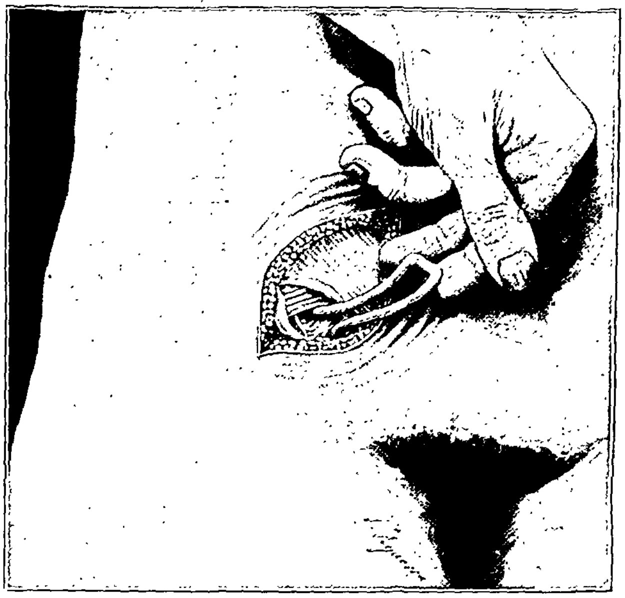

Fig. 1.—The cutaneous and fascial incisions; the round ligament drawn out.

The same objections hold against the several operations of Wylie, Mann, Dudley, Webster, Baldy, Coffey and Bissell, all of which have the additional disadvantage of shortening the round ligament at the expense of the posterior (more resisting) part, and of being intraperitoneal. The operations of Gilliam, Ferguson, Simpson, Montgomery, Mayo, Branch and Crossen shorten the ligament at the expense of the anterior (weakest) portion, elevating at the same time the fixed, anterior or abdominal end; they present therefore a double advantage over the methods already mentioned, though with the same disadvantage as those of the second group, namely, that of being interperitoneal operations.

Trying to obviate such objections, I devised the following plan, which has advantages over both the Alexander and the Gilliam operation. My procedure is as follows:

1. An incision is made over the internal inguinal ring, about 2 inches in length and obliquely upward and inward as shown in Figure 1. All bleeding points are ligated.

2. The internal ring being located, an incision is made in the aponeurosis of the external oblique in the direction of its pillars, exposing the canal, just over the internal ring. A blunt hook is introduced and its point directed toward the median line in order to isolate the round ligament, which almost always is included among the tissues engaged. Once isolated, the ligament is freed from all the tissues which cling to it; the peritoneum is stripped back with the aid of gauze wrapped around the index-finger, and by the use of forceps or small snips of the scissors once in a while, extreme care being taken not to divide the peritoneum.

3. When the ligament has been drawn out as far as necessary, a silk ligature is tied around it, as shown in Figure 2. The right index-finger is then introduced through the internal inguinal ring, separating from the abdominal wall proper the extraperitoneal fascia and peritoneum in a direction upward and inward as high as one desires to fix the anterior end of the ligament (usually from 1 to 2 inches), going well back of the rectus muscle. Some difficulty is sometimes encountered in this step, shown in Figure 2.

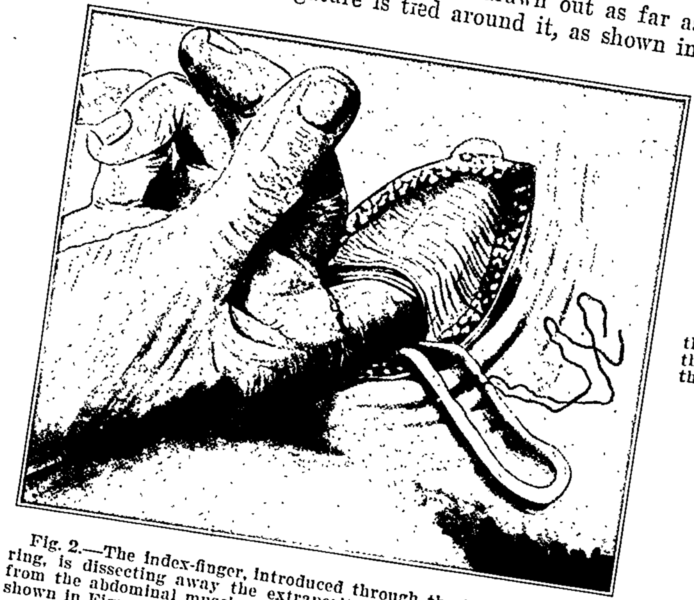

Fig. 2.—The index-finger, introduced through the internal inguinal ring, is dissecting away the extraperitoneal fascia and peritoneum from the abdominal muscles, thereby facilitating the following step, shown in Figure 3.

4. The two ends of the silk ligature are threaded into the eye of a Deschamps needle, which is then introduced into the tract made by the finger, up to the desired point, where it is thrust from behind forward through the rectus muscle, bringing its point out as in Figure 3. The needle is unthreaded and withdrawn; traction is made on the ligatures and a loop of the ligament is made to appear through the anterior leaflet of the rectus sheath. It is a good plan to cover the wound after this step while the same operation is performed at the other side. By so proceeding the uterus can be placed in such a position as may be desirable.

5. The last step consists in the fixation of the loop of ligament to the aponeurosis by means of two or three interrupted or continuous sutures. If the loop of ligament drawn out through the rectus muscle is too long it can be treated as in Kellogg's operation; that is to say, an aneurysm needle is introduced through the aponeurosis at about an inch external to the point of emergence of the loop, and is made to appear at about half an inch from it; threading the silk ligature through its eye, the needle is withdrawn, carrying out the ligature and the loop of ligament, which is sutured to the aponeurosis as already stated (Fig. 4).

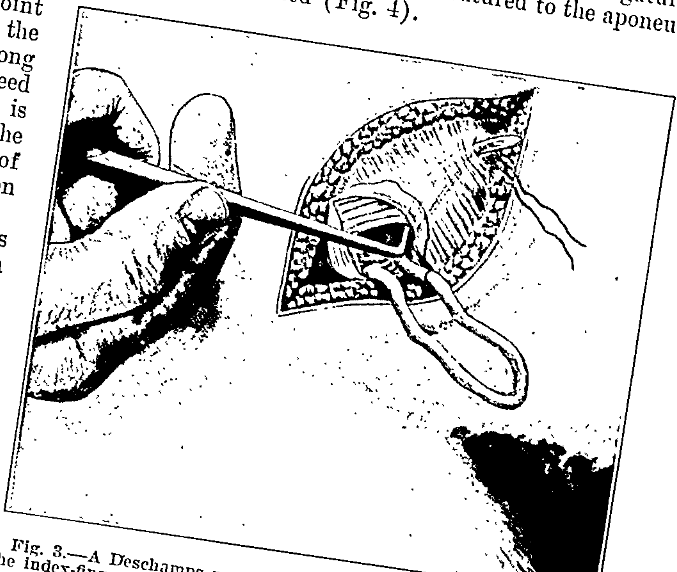

Fig. 3.—A Deschamps needle is introduced into the tract made by the index-finger, carrying the silk ligature, which is made to appear through the anterior leaflet of the rectus sheath after transfixing of the rectus muscle.

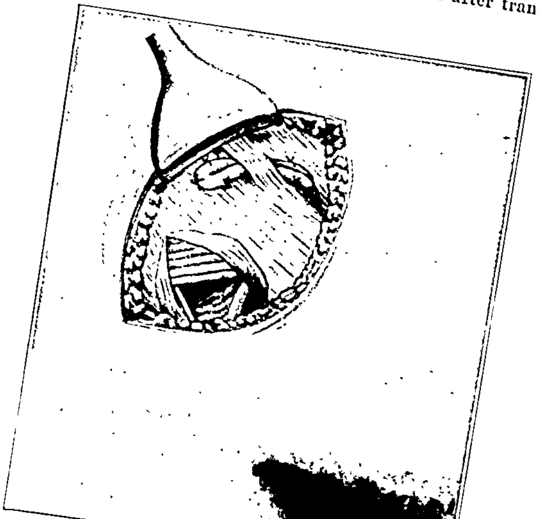

Fig. 4.—Loop of ligament transfixed by Kellogg's method and sutured in place. The last step closes the inguinal canal as in a Ferguson operation.

6. The last step closes the internal ring and inguinal canal as in a Ferguson operation. Finally the skin is sutured as in any abdominal operation.

CONCLUSIONS

1. My operation has the advantage of being extraperitoneal.

2. It shortens the ligament at the expense of the weakest distal half, leaving intact the proximal and stronger portion.

3. It elevates the abdominal fixed point, carrying it toward the median line, and therefore suspending the uterus.

4. Its disadvantages are: A. Two incisions are required. B. As in the Alexander operation, it is limited in its application. If the uterus is not mobile, if it is adherent to neighboring organs, there will be difficulty in getting it into place. It is true that Goldspohn's procedure of entering the peritoneal cavity to treat adnexal conditions can be easily performed, but such a procedure has a limited field of usefulness; my operation, therefore, cannot be performed in any but suitable cases. C. When by atrophy the ligaments have become attenuated they are of little use in maintaining the uterus in position. In cases of prolapse or vesicocele the accessory operative procedures should be performed, as colporrhaphy, perineorrhaphy, curettage, trachelorrhaphy, etc.; otherwise the operation will be useless.

Calle 59, Numero 488.

AN EXPERIMENTAL STUDY OF BONE GROWTH AND THE SPINAL BONE TRANSPLANT *

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The special object of the animal experimentation reported herein was to afford means for studying both macroscopically and microscopically a bone-graft when planted in a dog by precisely the same technic as that which I employ in the human subject for the treatment of Pott's disease of the spine.[1]

I wish to express my thanks to the following for valuable aid rendered in this work:

Dr. Ferguson for his interest in superintending the preparation of most of the microscopic sections, for his examination of these sections and for many valuable suggestions.

Dr. Beebe for aid, suggestions and laboratory privileges.

Drs. Soule and Keller for indispensable aid in the operating-room.

REPORT OF EXPERIMENTS

Experiment 1.—Dec. 10, 1911: Dog, mongrel, male, approximate weight 30 pounds. Ether anesthesia. Anesthetist, Mr. Cassellius. Fields of operation: dorsal region of back and left fore leg, prepared by shaving, and scrubbing with tincture of green soap and water, followed by corrosive sublimate 1:1,000 and 70 per cent. alcohol. The spinous processes of three of the mid-dorsal vertebrae were approached by an incision through the skin and areolar tissue directly over their tips. The supraspinous and interspinous ligaments were split with a scalpel to a depth of two-thirds of an inch between the spinous processes without disturbing the attachments of the ligaments to the spinous processes. Each of the three spinous processes was split longitudinally with a chisel and mallet into halves for a depth of about two-thirds of an inch, care being taken that the right halves of the spinous processes were not broken. A separation of the tips of the halves of these spinous processes produced a wedge-shaped cavity, into which the ulnar transplant was later inserted. A hot saline compress was placed in the wound until the bone insert was obtained. This was for the purpose of securing as perfect hemostasis as possible for a bed for the bone-graft. Half the diameter of the shaft of the dog's right ulna was then removed with chisel and the bone-forceps. The graft consisted of periosteum, compact bone, endosteum and marrow substance. It was inserted between the halves of the interspinous ligaments and spinous processes, and held in place with interrupted sutures of linen, which were passed through the supraspinous ligament and the posterior edge of the halves of the interspinous ligaments near the tip of each spinous process. These ligaments were thus drawn over the graft posteriorly. The procedure was precisely that which I have applied to human subjects and of which I have published reports.[1]

December 13, the wound was septic. December 20, much pus was discharging from the wound. Sinus slowly decreased in size in the next few weeks.

Necropsy.—May 28, 1912: The wound had healed with the exception of a small sinus; a sliver of nearly one-third the diameter of the graft anteriorly and tapering to a pointed end posteriorly had sequestrated from the rest of the graft, which had become firmly united to the spinous processes. The whole posterior diameter had lived and become firmly grown into the spinous processes. The result was a bridge of bone uniting three vertebrae. Although sepsis had occurred and no attempt had been made to immobilize the dog's spine, a gauge dressing was applied at time of operation and the dog was placed in a cage. *X*-ray examinations of the gross specimen and a microscopic study of decalcified and non-decalcified sections failed to show degeneration of that part of the graft which had become united. No cartilage cells could be found; the union of graft to spinous process was by new bone formation.

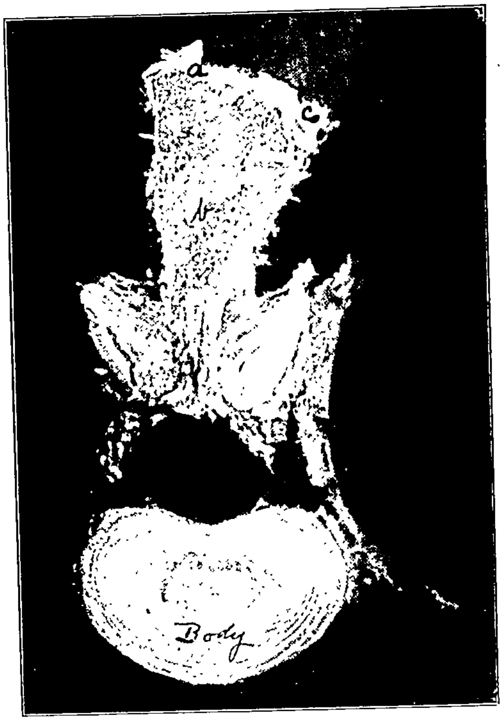

Fig. 1.—View of a dog's vertebra (Experiment 1), into the spinous process of which a portion of his ulna had been ingrafted six months before; *a*, *b* and *c* indicate the outlines of the graft, which has become firmly grown into the split spinous process. Figure 2 is from a photomicrograph of a section of graft grown into the spinous process at this point.

Experiment 2.—Jan. 18, 1912: Dog, male, mongrel, weight 20½ pounds. Ether anesthesia. Assistant, Dr. Keller. Precisely the same technic was carried out in this case as in Experiment 1, except that the whole diameter of the shaft of the ulna was removed subperiosteally. A sharp periosteum elevator was used and the periosteum was removed from the

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* From the Loomis Laboratory, Cornell University Medical College.

[1] Albee, Fred. H.: Transplantation of a Portion of the Tibia into the Spine for Pott's Disease, The Journal A. M. A., Sept. 9, 1911, p. 885; Bone transplantation as a Treatment for Pott's Disease, Club Feet and Ununited Fractures, Post-Graduate, November, 1912, p. 999; New York Med. Jour., March 9, 1912. Other studies in bone growth, periosteal transplantation, etc., have been carried on, coincidently, as will appear.

bone with force for the purpose of being certain of separating the deep osteogenetic layers from the bone cortex and obtaining it as a part of the periosteum. The periosteum was left *in situ* in the leg. The transplant was inserted by the same technic as in Experiment 1, except that the periostum had been removed as previously described. The leg and back wounds were closed by a continuous suture of linen. The periosteal tube was allowed to collapse.

Jan. 22, 1912: Back wound septic.

Jan. 28, 1912: Leg wound healed by primary union.

Necropsy.—Feb. 29, 1912: Back wound was septic; graft had sequestrated. It is believed that the difficulty in preparing the dog's skin for operation, in addition to large hemotomata which invariably collect into loose areolar tissue of the dog's back in spite of all precautions, was largely responsible for the sepsis in the back wound, at the same time the leg wounds were clean.

The conditions about back wound were precisely the same as those in Experiment 1, namely, a deposit of osteoid tissue in wall of sequestrum pocket. The graft, however, had sequestrated.

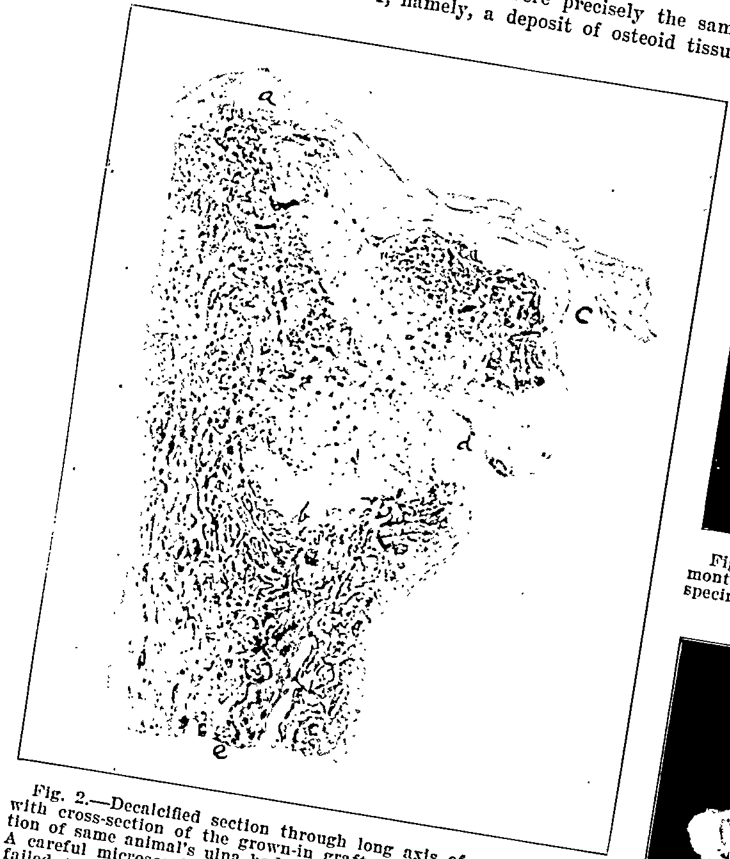

Fig. 2.—Decalcified section through long axis of spinous process with cross-section of the grown-in graft. Six months after a portion of same animal's ulna had been grafted into spinous processes. A careful microscopic study of these sections and all others have failed to disclose dead bone-cells. The corners of the graft are indicated by *a*, *b* and *c* (*d* is a microtome artefact); *e* is base of spinous process.

In the leg a bridge of bone had appeared where the shaft of the ulna had been removed. In the center it tapered to a diameter about one-half that of the original bone. This bone growth had been very rapid and connected the ends of the ulna.

EXPERIMENT 3.—Jan. 23, 1912: Dog, terrier, female, weight 22 pounds. Ether anesthesia. Anesthetist. Mr. Cassellius. Assistant, Dr. Keller. The spinous processes of last two dorsal and first, second and third lumbar vertebrae were prepared as usual for the graft. With chisel and mallet and saw about 1¾ inches of the left ulna were removed leaving the periosteum, from one-half its diameter, *in situ* in the leg. The periosteum was removed in this instance with the blunt end of a pair of scissors and no force was used in scraping the periosteum from the bone. The periosteum peeled off easily. The portion of the ulna which had been removed was then split longitudinally with a chisel into equal parts, on one of which was the periosteum. This latter fragment was inserted into the last two dorsal vertebrae. The portion from which the periosteum had been removed was inserted into the second and third lumbar vertebrae.

Necropsy.—Feb. 29, 1912: Posterior end of wound was filled with pus. Anterior end of wound had healed by granulation. The graft from which the periosteum had been removed and which had been placed in the lumbar vertebrae had sequestrated and was surrounded with pus. The graft insert which was placed in the dorsal vertebrae was firmly united into those vertebrae. A micro-scopic examination showed the union to be bony. No evidence of degeneration or cellular death could be found. No bone or evidence of osteogenesis appeared between the ends of the ulna where the grafts had been obtained, except about the bone ends. The periosteum in this case, as stated, was removed from the bone by means of a blunt instrument and with no effort to get into a deep cleavage.

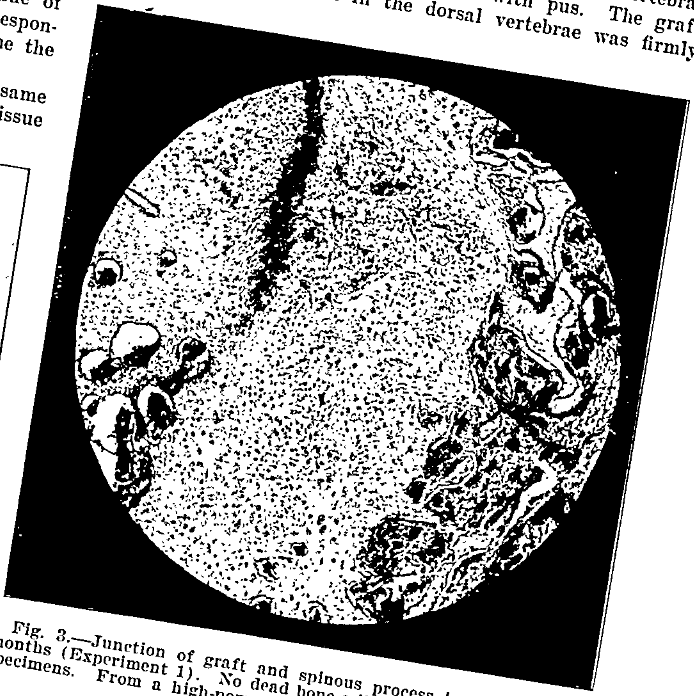

Fig. 3.—Junction of graft and spinous process in a case of six months (Experiment 1). No dead bone-cells could be found in these specimens. From a high-power photomicrograph.

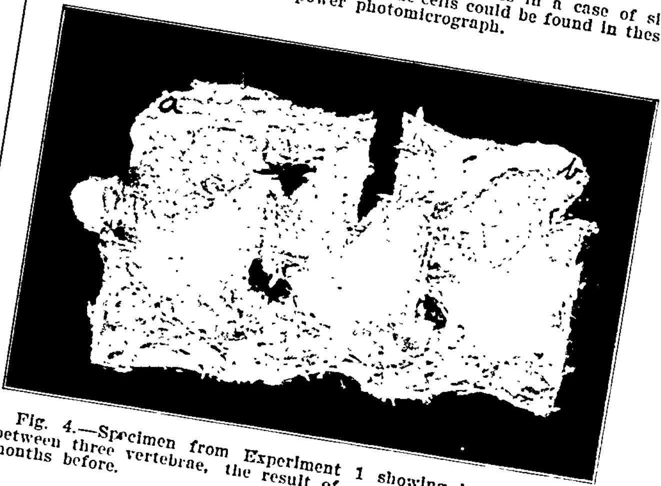

Fig. 4.—Specimen from Experiment 1 showing bridge of bone between three vertebrae, the result of a bone-graft inserted six months before.

EXPERIMENT 4.—Jan. 25, 1912: Dog, mongrel, female. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. This dog on the evening before the operation received a bath in 2 per cent. aqueous dilution of liquor cresolis compositum. In all following experiments this bath was given. Two inches of the shaft of left ulna were removed subperiosteally. A sharp periosteal elevator was used for the purpose of getting into deep cleavage. The portion of the ulna shaft removed was then split longitudinally with a chisel and mallet into halves. One of the bone fragments was inserted by the usual technic into the last dorsal and first and second lumbar vertebrae. The remaining bone fragment was placed in sterile normal salt solution in an ordinary ice-box for the purpose of transplanting it into the next dog operated on. Wounds healed by primary union.

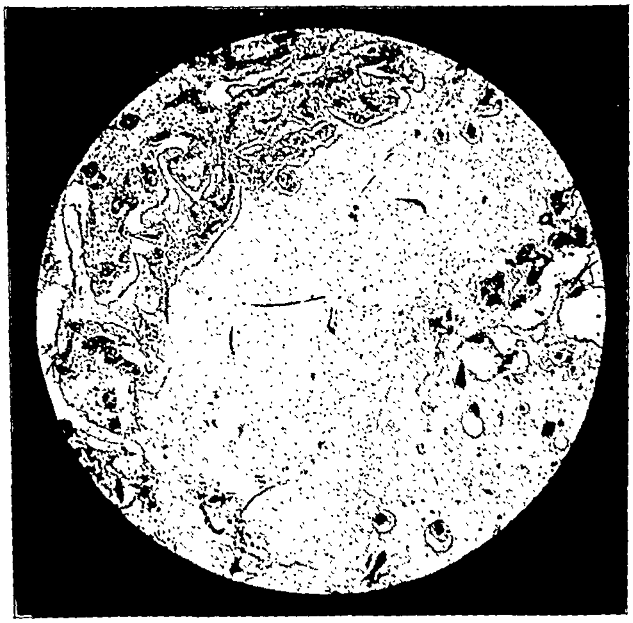

Fig. 5.—Junction of graft and spinous process (*a*, *b*). The transplant had been inserted four months (Experiment 5). From a high-power photomicrograph.

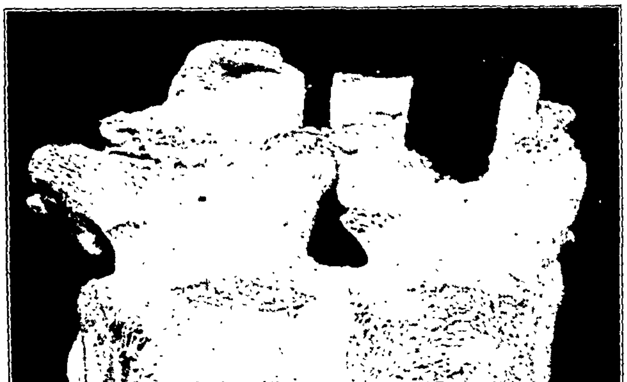

Fig. 6.—Two vertebrae of a dog into which the bone transplant (A, B) had been inserted six weeks before. (Experiment 11); from a photograph. Sections have been taken for microscopic examination.

Necropsy.—May 9, 1912: Transplant was found united firmly with the spinous processes. The graft had lost its identity. From the appearance of the bridge of bone between the tips of the three spinous processes one could not say from what it had originated. Microscopic examination showed bony union of graft to spinous process and no evidence of cellular degeneration. A strong bridge of bone was present between ulna ends filling in the space where the transplant had been removed. This bridge of bone was not quite so large in diameter as the normal ulna shaft. It was, however, sufficiently strong for functional purpose. It is believed that the satisfactory osteogenesis obtained in this case as, for instance, compared with practically no bone growth in Experiment 3, was due to the method of removing the periosteum by a sharp instrument for the purpose of getting into deep cleavage. In this way the chances are large that the very active osteogenetic layer of cells which is situated on the surface of and considerably adherent to the compact bone, will be loosened either entirely or partly, and separate off as a part of the periosteum.

Experiment 5.—Jan. 30, 1912: Dog, black hound, male. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. *Incision was made over last three dorsal and first* three lumbar vertebrae. Spinous processes of the three lumbar vertebrae were split into right and left halves with a chisel and the bone fragment 2 inches long which had been removed from the dog's ulna in Experiment 4, Jan. 25, 1912, and kept in normal salt solution in an ice-box, was inserted into the prepared lumbar vertebrae. The spinous processes of the tenth and eleventh dorsal vertebrae were denuded with a blunt instrument of their periosteum from the neural arches posteriorly to the tips of the spinous processes where they were left attached to each. The separated ends were then held in approximation by linen sutures. The skin was sutured by the subcutaneous method. In all previous cases the skin was closed with the ordinary through-and-through stitch; all succeeding wounds were closed with the subcutaneous suture, resulting in much less skin infection.

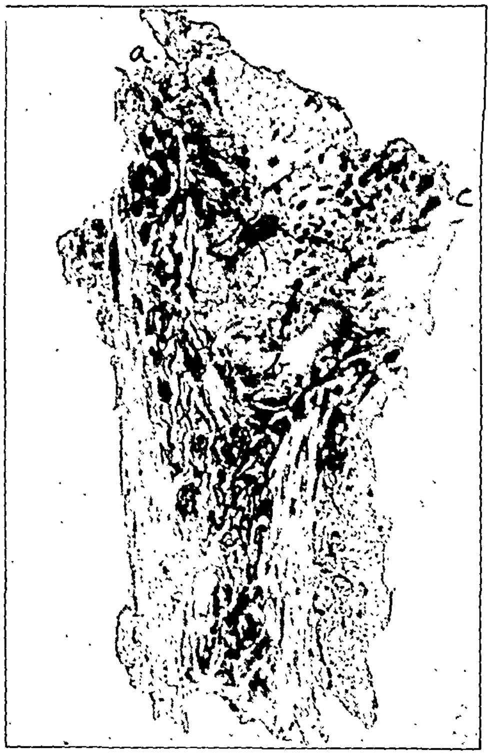

Fig. 7.—Longitudinal section through spinous process with cross-section of graft (*a*, *b*, *c*) which had been inserted six months; from a low-power photomicrograph of a non-decalcified ground specimen. Numerous blood-vessels can be seen, under high magnification, extending from spinous process into graft.

Necropsy.—May 8, 1912: The transplant was amalgamated into the spinous processes and had nearly lost its identity. It showed the contour of the graft on one end. From the appearance of the bridge of bone, one would not have thought that it was due to a bone transplant. There were only a few small disconnected plaques of proliferated bone from the periosteum which had been stretched across between the dorsal spinous processes.

It is thought that the fact that there was not a satisfactory bone growth from the periosteum may be accounted for in two ways: first, the periosteum on the spinous processes is meager and unsatisfactory on account of so many muscular and ligamentous attachments; secondly, the periosteum was removed with a blunt instrument without a special effort being made to get into deep cleavage.

Experiment 6.—Jan. 30, 1912: Dog, bull, male, weight 28 pounds. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. Incision was made over and down to spinous processes of last two dorsal and first three lumbar vertebrae. Two and one-fourth inches of left ulna with its periosteum were removed with saw and split with chisel longitudinally into halves. These fragments of bone were then inserted into the spinous processes by the usual technic, one into the lumbar vertebrae, the other into the lower dorsal. The wounds healed by primary union.

The dog was found dead May 6, 1912. In my absence Mr. Cassellius removed the operated portion of the spine and placed it in fixing solution for future examination. These transplants, like all the others in the presence of asepsis, had become firmly united to the spinous processes into which they had been inserted.

Experiment 7.—Feb. 1, 1912: Young dog, mongrel terrier, weight 18 pounds. Ether anesthesia. Anesthetist, Mr. Cassellius. Fields of operation prepared by iodin method. An incision over last three dorsal and first three lumbar vertebrae was made. The lumbar spinous processes were split longitudinally on the left side of their center down to the neural arches. Wound as usual was packed with hot saline compress. One and three-fourths inches of diaphysis of left ulna were removed subperiosteally. A blunt instrument was used to separate the periosteum which was left *in situ* in leg. One-half of the ulna shaft was placed by usual technic into the posterior lumbar vertebra. Pieces of periosteum stripped, without aid of sharp instrument, from ulna (varying in size from one-fourth by one-fourth of an inch to small bits) were sutured into the belly of the muscle, which had been turned aside, when the ulna shaft was removed. The muscle was then sutured into its normal position. The periosteum, on the left sides of the two anterior spinous processes was stripped and retained in two pieces with some difficulty. These periosteal flaps were then drawn together and sutured, thus producing a periosteal bridge between these processes. The remaining half of the ulna was placed in salt solution for the purpose of transplanting it into the next dog operated on.

Necropsy.—At necropsy three months later the transplant was firmly united into the spinous processes. No osseous tissue could be found as a development from the periosteal bridge between the spinous processes. Only a small plaque of new bone could be found where the ulna had been resected. There was new growth of bone about cut ends of ulna.

Experiment 8.—Dog. Ether anesthesia. Anesthetist, Mr. Cassellius. Assistant, Dr. Soule. The last three dorsal and first three lumbar spinous processes were split as usual. Numerous slivers of the previous dog's ulna devoid of periosteum were placed between the split portions of the two upper dorsal vertebrae. The superspinous and interspinous ligaments were drawn over in the same way as when a large graft was used. All the ligaments and muscles were separated from the second and third lumbar spinous processes for about two-thirds of an inch from their tips. These two spinous processes were then split longitudinally into equal anterior and posterior portions. Green-stick fractures were produced in the anterior half of the posterior process and the posterior half of the anterior process. The tips of these fragments, well denuded of periosteum and soft tissues, were then contacted and held with a linen ligature. The ligaments and fascia were drawn over all with a continuous linen suture. Skin was closed as usual with subcutaneous continuous suture.

Necropsy.—At necropsy two and one-half months later there was evidence of some skin infection which had nearly subsided. The slivers of bone had united and produced a bridge of bone between the spinous processes but not so firm as one resulting from one large graft. There was no bony union between the approximated fragments of the second and third lumbar spinous processes.

Experiment 9.—Dog, terrier, male, weight 18¼ pounds. Preparation: bath in compound solution of cresol and shaving the night before operation. Field of operation allowed to dry over night and treated with American tincture of iodin just before operation. This preparation was used in all of the succeeding cases and was found very satisfactory. Ether anesthesia. Assistant, Dr. R. E. Soule. Site in back for graft was prepared as in previous cases and packed with saline compress. Two inches of middle of left ulna were removed subperiosteally with blunt dissector. This portion of the ulna was then split longitudinally into quarters, two of which were placed in the tips of three lumbar vertebrae. A strip of periosteum one and one-fourth inches by one-third inch taken from the ulna by a blunt dissector was placed into the tips of two split spinous processes anterior to those that contained the graft previously inserted. The periosteum was placed in a similar manner to that of the bone graft. The back wound was closed. Two pieces of bone one-fourth inch by one-fourth by one-eighth inch in diameter, which had beeen taken from the tip of a spinous process of the same dog, were placed in the belly of a muscle in the left fore leg. Two pieces of bone of the same size were taken from ulna and placed in belly of another muscle in left fore leg, the object being to determine which was the more osteogenetic.

The dog was found dead Feb. 27, 1912.

Necropsy.—Feb. 28, 1912. Assistant, Dr. Soule. Bone transplant was found firmly united by callus to those spinous processes into which they had been inserted. The graft presented every appearance of being live bone. The small piece of bone from the tip of a spinous process, which had been implanted into a muscle belly at operation, had changed very little; there was a very small proliferation on the side of the periosteum. The piece of bone taken from the ulna and inserted into a muscle belly had changed also very little. There was, however, considerable proliferation on the side of the periosteum. The piece of periosteum (1¼ inches by one-third inch), which had been placed between the tips of two split spinous processes, presented no evidence of proliferation and was hard to find.

Experiment 10.—Feb. 13, 1912: Puppy, terrier. Ether anesthesia. Assistant, Dr. Soule. Incision 5 inches long was made over and down to tips of last dorsal and first three lumbar vertebrae. Interspinous ligaments were split with scalpel, spinous process with chisel. A piece of the ulna bone of the dog previously operated on (1¾ inches long and one-half the diameter of the ulna) was inserted by technic above described into the spinous processes of the second and third lumbar vertebrae. A piece of the same dog's left ulna of about the same size was then removed subperiosteally with chisel and saw and inserted into the last dorsal and first lumbar vertebrae. A piece of periosteum (1¼ inches by one-third inch) removed by blunt dissection from the ulna was placed into the fascia one and one-half inches to left of the first lumbar vertebra and fixed with linen sutures. On the opposite side (right) and in the same relation to the first lumbar vertebra a piece of the left ulna (one-half by one-eighth of an inch) was placed in the same manner as the periosteum. The right fore leg was broken over the side of a table and a splint was applied, in order to obtain thickened proliferating periosteum for grafting purposes in ten days' time.

Necropsy.—Feb. 27, 1912: Both pieces of bone, the one from another dog and the one from the same dog, were equally firmly united into the spinous processes. A careful microscopic examination of sections made through graft at various places and through junction of union of graft to spinous process failed to show any evidence of degenerated bone-cells. The periosteum inserted into the fascia to the left of the spine, presented no evidence of proliferation, either periosteal or bone. The bone placed under similar condition to the right of the spine showed considerable proliferation, especially on the periosteal side.

Experiment 11.—Feb. 15, 1912: Puppy, male mongrel, weight 17¾ pounds. Ether anesthesia. Assistant, Dr. Soule. Shaft of left ulna was removed, with its periosteum intact, and placed in normal salt solution, to be kept in ice-box for a following case. The spinous processes, last dorsal and first lumbar vertebrae were prepared as usual and a piece of a puppy's ulna (one-half its diameter and 1¾ inches long), which had been removed two days previously and kept in Ringer's solution in an ice-box, was inserted by usual technic into the second and third lumbar vertebrae. A fragment of ulna, with periosteum of approximately the same size, which *had been removed from an old dog two days previously and* kept in salt solution in an ice-box, was inserted into the last *two dorsal vertebrae.*

Necropsy.—Six weeks from time of operation: Both bone-grafts were found firmly united into the spinous processes. X-rays taken in different planes of specimens (see Fig. 6) failed to show any areas of degeneration in the graft. Both decalcified and non-decalcified (ground) microscopic specimen (see Fig. 7) were prepared and examined carefully. No dead bone-cells could be found. The graft, although only six weeks after insertion, was very completely united into the spinous processes by new-formed bone. No cartilage cells could be found.

EXPERIMENT 12.—Feb. 20, 1912: Dog. Ether anesthesia. Anesthetist, Mr. Cassellius. An incision 3 inches long was made over three lower dorsal spinous processes. The muscles and ligaments with periosteum were separated from them down *to the neural arches and retracted. The processes were divided* at their base with bone forceps and chisel close to the neural arches. The processes were *then placed longitudinally* so that the tip of one process came into approximation with the severed base of the next superior process. The soft tissues with periosteum were brought back with interrupted sutures of linen. Skin was closed with subcutaneous linen suture. The second and third lumbar processes were then exposed. Their tips were split for two-thirds of an inch *in situ* with supraspinous and interspinous ligaments undetached in the usual manner. A fragment of an ulna removed from a dog one week previously and kept meantime in normal salt solution in an ice-box was inserted as a graft by the usual technic. This transplant was 1¾ inches long and one-half the diameter of the ulna shaft. The skin was closed by subcutaneous suture of linen.

Necropsy.—Two and one-half months after operation: Bony union had not occurred between the dorsal vertebrae whose spinous processes had been broken down. It should be stated, however, that, as in all other cases, no attempt to fix or immobilize the dog's spine was made. The graft which had been inserted into the second and third lumbar processes was well united.

EXPERIMENT 13.—April 24, 1912: Dog, mongrel, male, weight 21½ pounds. This experiment was possible only *through the kindness of Drs. Beebe and Berkeley,* who allowed me to remove a part of a sheep's ulna while Dr. Berkeley was *operating on it. A fragment of ulna 3½ inches by one-third* inch, including periosteum as well as marrow substance, was removed from a large sheep and placed in normal salt solution until the dog's spinous processes, three in number (first dorsal and first and second lumbar), could be split and prepared in the usual way. The transplant was then inserted and covered with the ligaments as above described.

Necropsy.—Five weeks after operation: Although the wound had healed kindly by primary union, the transplant was found in a pocket filled with serum. No evidence of osteogenesis on the part of the graft or union to spinous processes was present.

The following deductions and conclusions are based on the experimental work reported herein, in conjunction with a clinical experience gained from 130 bone-grafting operations on the human subject, ninety-five of which have been for Pott's disease, ten for clubfoot, eleven for paralytic deformities, eight for ununited fractures, one for osteomyelitis cavity, one fixation of tarsus for tuberculosis, one for deformity of tibia, one for deformity of the jaw, one for paralytic drop-wrist, and one for absent head and neck of femur and ununited fracture of neck of femur. In three of the cases of Pott's disease, the bone transplant has been cut down on for minor reasons, inspected and parts removed for examination. The time after operation has been three, five and seven weeks. In all of these cases the grafts have been well united into the spinous processes wherever contacted. In two cases the end of the graft had sprung posteriorly into the soft tissues. In every instance the portion of the graft, which was contacted into the spinous processes bled wherever cut with bone forceps; *its periosteum was proliferated and the transplanted* portion in every way presented the appearance of viability. On the other hand, in both cases, the portion of the graft projecting into the soft tissues was pale, the periosteum had not proliferated, the bone did not bleed in its central portion when cut, and was thought to be acting as an "osteoconductive scaffold," whereas there seemed every reason to believe, especially in the light of our microscopic results, that the portion in and between the spinous processes was viable, on account of the contacted points of haversian blood-supply being so numerous and near together.

SUMMARY

1. Many *liberties can be taken with the bone-graft* without interfering with its success. It has certain bacteria-resisting properties. In one case the transplant was kept in normal salt solution in an ice-box for one week and in others for shorter periods and successful results followed. In two cases sepsis occurred in the same wound; nevertheless, parts of the graft in each case became united to the recipient bone and remained, while the rest of the transplant sequestrated. From these experiences and the fact that in my series of 130 bone-grafting procedures on human subjects only parts of four grafts sequestrated, it is believed that one is safe in deducting *that the bone-graft has considerable* germ-resisting ability.

2. It seems very probable that the amount of haversian blood-supply is in a very large degree, if not wholly, responsible in determining whether the bone-graft lives as such or acts as an osteoconductive scaffold. This was especially emphasized in the three human cases cut down on. *If the graft is to live as such the blood-supply* contacts must be of favorable character and numerously distributed at short intervals along its whole extent. Such as is the case with the spinal graft or the transplant used for ununited fractures described elsewhere.

3. Ollier in 1858 described his technic for subperiosteal resection, but as far as I am aware, did not emphasize the importance of the employment of a sharp instrument with force in order to separate with the periosteum the embryonic layer of active osteogenetic cells, which is situated on the periphery of the compact bone, although it is evident from the description of his work that he frequently practiced this technic. It seems certain that osteogenesis *on the part of the healthy periosteum* removed from a healthy bone, is largely dependent on the presence of these active embryonic bone cells from the outer surface of the cortical bone. Therefore the wisdom of the use of the sharp periosteum elevator in bone resection is apparent.

4. The bone transplant apparently acts always as a *stimulant to osteogenesis on the part of the bone into* which it has been implanted.

5. The spinal graft in the dog loses its identity at about the fourth month. After that time one would not know from its appearance that the bone bridge had originated in this way.

6. Bone taken from another species, such as the sheep, did not unite to the recipient bone of the dog, although

in the presence of asepsis. This one experiment does not prove that sheep's bone will not unite to dog's bone as a graft, but it does prove the unreliability of the procedure.

7. A bone bridge between different vertebrae was accomplished in this small series of experiments only by the bone-graft. Breaking down the spinous processes, splitting the spinous processes with approximation to the contiguous halves, and the insertion of periosteal bridges all failed to produce the desired continuous bone bridge.

8. Bone transplants taken from a long bone such as the ulna showed evidence of greater osteogenesis than when taken from the spinous processes.

9. Bone from which the periosteum had been removed proved equally satisfactory to bone-grafts on which the periosteum had been retained, but their persistency was not tested because the animals were not allowed to live long enough. It seems certain that the fate of a bone-graft depends largely on its exact environment especially as to the numerous bone contacts closely situated.

10. The above-mentioned germ-resisting property of the bone-graft, in addition to its early adhesion, by bone growth, to the bones, with which it is contracted, favors in my opinion its substitution when feasible in place of all metal internal splints, especially when it is considered that the metal splint has absolutely the opposite influence, namely, the production of bone absorption, and favors infection.

11. It also seems that it is largely a question of definition of what the periosteum is and what it includes as to whether it is to be actively osteogenetic or not. If by chance the cleavage is deep as when the periosteum is removed with a sharp elevator and the bone scraped, the periosteum is very sure to be actively osteogenetic. On the other hand, if the periosteum is stripped off or removed with a blunt instrument, the cleavage is not likely to be deep enough to include the osteogenetic layer of cells on the periphery of the compact bone. In that instance the periosteum would constitute a connective tissue limiting membrane (Macewen) only and slight or no osteogenesis would occur.

12. It is believed that periosteum and marrow substance, on the bone-graft, serve an important rôle in aiding to establish an early and more abundant blood-supply from recipient bone to the transplant.

Other studies in bone growth, periosteal transplantation, etc., have been carried on, coincidently, as will appear.

125 West Fifty-Eighth Street.

THE PROBLEM OF TEACHING GENERAL MEDICINE*

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The Committee on Pedagogy was authorized by the Cleveland meeting of our association in 1908. The first report was made by Dr. H. B. Ward in 1909. This was an excellent discussion of the qualification of teachers and methods of instruction. The report was properly embalmed and laid away in that mausoleum entitled "Proceedings of the New York Meeting." Most of you were present at the obsequies. The reports of 1911 and 1912 were made by Dr. G. H. Hoxie. He considered the crowded schedule and the desirability of leaving the students a little time to think. He made some practical suggestions along these lines. These were respectfully listened to by the same men present to-day, but few or none of his ideas have been carried into effect. The reports were injected with formaldehyd and laid away in the archives. Recently the state of Pennsylvania has decreed that any medical school to be in "good standing" must have a required schedule of thirty-five hours a week. No one has even opened the tomb to see whether the Hoxie reports have turned over in their coffins at this outrage on pedagogic principles.

IS FURTHER DISCUSSION USEFUL?

Seriously, this raises the question whether our reports and discussions do any good. Those gathered here are chiefly deans or secretaries of medical faculties. We all recognize the existing conditions. We all know where lie the chief difficulties to effective teaching. We all know Mr. Flexner's inexorable conclusions. We are familiar with the constructive work of the Council on Medical Education. We remember the valuable discussions on this floor. It seems strange that so few of the workable suggestions from all these sources have filtered through into practical application. The physiologic mechanism of medical teaching is apparently surrounded by a semipermeable membrane, and the big molecules of pedagogic principles find great difficulty in diffusing into the cells. The membrane is partly ignorance, partly indifference, partly conflicting interests. Is there anything we can do to assist absorption? Will a further digestion help bring the unassimilable colloids into solution? Can the membrane itself be made more permeable?

President Harper used to say that a chief function of a university faculty was to educate itself. Probably that is also true of this college association.

Now, one of the established psychologic principles lying at the basis of education is repetition. It is the foundation of habit. It rests on the physiologic generalization that repeated stimuli are more effective than a single stimulus, and that each stimulation makes easier the next one. Several of our correspondents have stated that we need not be afraid of repetition in our course of study. In the main we believe that this statement is correct. At any rate we may make this principle the excuse for another discussion of clinical teaching. It is true no new discoveries can be looked for. The most to be expected perhaps is that, like the katydid, we shall say "an undisputed thing in . . . a solemn way." But if a little more pressure, a little more digestion, a little more stimulation will help to bring the long-recognized food into actual relation to the working cells, our faculties and teachers, then the work of this committee will not have been wholly in vain. May I carry the homely metaphor further by asking each man present, so far as the results of digestion seem acceptable, to serve as a circulatory system by which the pabulum of our conclusions may be brought home to his own institution and instructors, by whom alone it can be made effective for nourishment and growth?

THE PROBLEM INVOLVED

I have taken as my topic the [illegible] Teaching General Medicine." It seems [illegible]tter of preliminary education has been fairly threshed out, and that this association will soon come to the irreducible minimum of one year of college added to a high-school education. It seems, further, that medical educators are agreed that the fundamental medical sciences must be taught as science and by scientists. We recognize that our students must learn to know and to do, and the laboratory method has come to stay. We know what kind of laboratory teachers we need, and where to find them, and how much we must pay. We know what equipment they need, and most schools have made fair provision in this direction.

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* Read as the report of the Committee on Pedagogy before the Association of American Medical Colleges, Feb. 26, 1913. The committee consisted of Dr. E. P. Lyon, St. Louis, chairman; Dr. Isador Dyer, New Orleans; Dr. George Blumer, New Haven; Dr. Charles M. Hazen, Richmond, and Dr. W. S. Thayer, Baltimore.

We know further that an army of young men is every year turned loose into the clinical subjects there to have their carefully built up habits of thought tumbled and scattered like block houses in the children's playroom. After the intensive discipline of the laboratory branches, we find them dissipating their energies among a dozen subjects with no idea of relative values. We find them wearing out their eyes trying to see surgical operations from the peanut gallery, their intellects trying to assimilate half-digested theories and their ham-bones sitting out interminable lectures. Then we acknowledge with dismay that our average graduate is far from being a scientific physician and tends rapidly to degenerate into the typical routinist.

That this is a criticism of universal application no one will claim. That it is one of very wide application is certain, and no one has advanced it more trenchantly than Professor Graham Lusk. "The great trouble with medical education," he says, "lies in the ill-educated men who conduct the last two years of the medical course." Again he says, "It is a well-known fact that we can produce laboratory men in American laboratories who can do work equal to that which is accomplished in other countries of the world. It is also a well-known fact that we have produced, up to the present, no man who, in the subject of general medicine, stands anywhere near to being a prototype of Friedrich Müller, Krehl or Romberg." If this is a true picture, we may well take notice. We may well acknowledge the subject worthy of careful consideration. And, first of all, we may properly attempt an analysis of the problem and try to decide the methods of attack by which it may be solved.

OUTLINE OF DISCUSSION

Educational authorities are accustomed to consider their subject-matter under the two heads, aims and methods The first topic constitutes the content of what is commonly called "principles of education," while the second finds expression in "educational psychology" or "methods of teaching." Education means change. Things are to be brought about that otherwise would not happen. We may change, that is, educate, any power of body or mind. The study of aims in education is for the purpose of deciding what powers and habits should be developed and in what direction the change should be made. These being decided on, the methods most likely to prove effective must be adopted.

In accordance with these ideas an outline as applied to general medicine was prepared and submitted to about 150 deans and teachers for criticism and discussion. About thirty careful and enlightening responses were received. For the large amount of time and thought given by the authors of these letters the committee desires to express thanks. These discussions are here for examination by anyone interested, and they will well repay careful perusal. It is the intention to bind them permanently, so that they will be available for any future committee or student of this question. There is much more in these letters than we have been able to embody in this report. What I shall say is founded on these discussions, on the excellent report of the subcommittee on medicine of the Council on Medical Education, on Mr. Flexner's book on "Medical Education in Europe" and other data.

AIMS OF GENERAL MEDICINE

From a study of these authorities we may formulate the aims of a department of general medicine under seven heads:

1. To give a broad and comprehensive presentation of the essential, fundamental facts pertaining to the causes, effects, recognition, prevention and cure of disease and to correlate these facts with the fundamental sciences.
2. To demonstrate and develop the technical skill by which alone the facts are applied in the diagnosis, treatment and investigation of disease.
3. To develop the powers of observation, judgment, thoroughness, persistence and precision by which alone the facts and methods can be intelligently and fully recognized and applied.
4. To develop the powers of expression, oral and written, by which alone the results of observations may be made available to others either at once; or for future reference.
5. To instruct students in the use of medical literature and develop habits of study by which alone the graduate will continue to grow in knowledge all his life.
6. To give the student as much knowledge as possible of human beings into whose life he must enter in a much broader, more sympathetic relation than that of engineer to machine.
7. To inculcate the ethical and professional ideals of honor, self-respect, altruism and social consciousness without which medicine degenerates into a business or a trade.

While the other departments of instruction will properly assist in all these aims, their systematic realization must rest on the department of medicine, the trunk of the tree, the sine qua non of medical education.

It is at once seen that this is a large program. Several of our correspondents have well said that it means the work of a lifetime or of several lifetimes. But of course we must limit our endeavors to what can be given to average students in the time of a standard medical course. The words "essential" and "fundamental" in our statement of aims are intended to imply this limitation. And we must at once acknowledge that if the ordinary course of study is too short to develop the essential, fundamental knowledge, technical skill, habits and ideals necessary to start the young graduate as a fairly safe and competent practitioner, our immediate duty is to bring the course of study up to the necessary standard. The discussion of the fifth or hospital year must in the last analysis rest on the determination of the inadequacy of the present standard.

GENERAL MEDICINE AN INCLUSIVE TOPIC

With our program thus formulated and delimited several things become clear. Since the fundamental facts are to be included in general medicine, no distinction should be made at first between medicine and surgery. All the diagnostic methods should be taught, and surgery should branch off when a special therapeutic method is indicated. Also since general medicine includes the fundamental facts it must embrace general therapeutics and the essentials of neurology, pediatrics, hygiene and other so-called special branches.

From our formulation of aims or principles another conclusion is inevitable. Technical skill, or knowing "how," is put parallel with theory, or knowing "why." Moreover powers of observation and deduction, or knowing "how to know," are of parallel or even greater importance than technical skill and knowledge of theory. Now no one ever learned how to do anything without doing it. No one ever learned to observe correctly without practice in observing. No one ever learned how to record his observations except by repeatedly recording his observations.

All this has been said so often that you can all sleep comfortably while I speak, just as we all sleep comfortably while someone declares without passion two such *profound generalizations* as these: "One *person in ten* dies of tuberculosis," and "Tuberculosis is a preventable disease," just as good citizens sleep comfortably when told that they have the worst municipal government in the world and are asked, "What are you going to do about it?" Once in a while along comes a Flexner and shouts in our ears, whereupon we turn over in bed and snooze off comfortably again on the other side.

RESPONSIBILITY OF MEDICAL TEACHING

The truth is that if our graduates in medicine are insufficiently trained, we — the group of men here present — are responsible. We either haven't the brains or the backbone to change things. In either case our slumbers should be fitful and our working days fuller of activity. Really, gentlemen, this is serious business; and I for one, when I hear that one of our graduates has undertaken a surgical operation for which he was not prepared, seem almost to have stuck a dirty finger into that patient's wounds. When I hear of fee-splitting I feel like a thief. When I hear of an avoidable death I have some of the qualms of a murderer. The question, "What are you going to do about it?" shrieks for an answer. This question opens the discussion of methods.

METHODS OF TEACHING: LABORATORY METHOD

Concerning the laboratory side of general medicine there is unanimity of opinion that a certain acquaintance with the methods can be gained through laboratory courses of the same nature as those conducted by the ancillary sciences; namely, systematic work with a considerable number of students in laboratories not immediately related to the hospitals. This is the way in which clinical pathology is ordinarily taught to juniors. While such a course is justified, there is equal unanimity among experts that such work constitutes only a beginning, and that the continued application of the laboratory methods in the first-hand study of actual patients is an absolute necessity. This necessity must be borne in mind when we come to the consideration of teachers and equipment.

For the present let us turn to the other forms of teaching applicable to general medicine.

DIDACTIC LECTURES

Since a thorough acquaintance with facts is one of our aims, it becomes apparent that the didactic method may be employed, provided the students have the opportunity of acquiring the objective basis by which the matter of lectures or text-books is made intelligible. By this objective substratum I mean that first-hand knowledge of facts, terms and methods by which alone wider discussion and excursion can be comprehended — by which alone words can be vivified and descriptions visualized.

IMPORTANCE OF OBJECTIVE KNOWLEDGE

To me as a teacher of physiology this subject is almost a fetish. I spend probably a fourth of the time of my students in the systematic development of objective knowledge of the methods and principles of this science, but I do not attempt to teach it all from an objective standpoint. I find that when my students have a moderate working acquaintance with the graphic method, they are in a position to understand and interpret heart tracings that they have not made themselves; that if they have studied the process of secretion of the salivary glands, they can visualize the process in the stomach; that if they have seen the effects of secretin on the pancreas, the discussion of the ductless glands without demonstrations becomes intelligible.

Now it is apparent that the fundamental sciences supply in part the objective substrata for medicine. For this, in part, the students have pursued anatomy, physiology, chemistry and pathology. But it is equally apparent that a part of the experiential basis must be supplied by the department of medicine. The student must early see some sick people. Else "fever," "dyspnea," "râles," "contusion," "abscess," "rigidity," "edema" and many more words remain words only, parrot words, learned by rote, glibly repeated it may be, but lonely and unassociated in the mind. Hence we have the argument for some clinical instruction, as intimate as may be and as early as possible, surely by the beginning of the third year.

Concurrent with or following (but not before) this observational basis can come systematic didactic instruction. Whether by lectures or by recitations from a text or by a combination of the two seems from a study of our authorities to be a matter of local conditions. To me it appears that the working out of this problem should take into consideration our fourth and fifth aims in regard to the development of powers of expression and habits of study. Furthermore, the problem should be worked out in relation to other departments and divisions. For example one department may well work from the text-book with frequent oral and written exercises and consequent development of ability to read and to express. Another department may properly use lectures and develop power to recognize essential points in discourse and make good notes. Whatever be the detailed system, every one agrees that the didactic method is to be employed with discrimination as to subject-matter and sparingly in relation to the total instruction.

SELF-CRITICISM AS A FACTOR IN EDUCATION

I believe, however, that one recognized psychologic fact should not be lost sight of; namely, that self-criticism of motor responses is easier than self-criticism of purely mental functions. A child can more easily tell whether he has made a right angle correctly than whether he has defined it correctly. A man may make a good machinist of himself. He can with difficulty make an electrical engineer of himself. Still less easily can he make a scientist of himself. The broad foundation of theory and of generalization must be laid by systematic instruction in the school. Your average graduate should constantly improve his technical skill in his life-work; he will be less likely to add to his scientific knowledge and to his ability as a thinker. This is not saying that we should teach the latter to the exclusion of the former. But it is saying that in our zeal to produce a competent technician we must not narrow the mental horizon — that we must not submerge the science in the art. This is a real danger, to be borne in mind in every readjustment of curriculum by which didactic instruction is supplanted by technical instruction and in all teaching, especially of the latter kind.

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Taking up the second method of instruction, the clinical lecture, there is a surprising majority expression among our correspondents as to its limited applicability. It is criticized, on the one hand, as not furnishing systematic instruction; on the other hand, as not affording intimate, first-hand information to the students.

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Nevertheless the clinical lecture has ardent defenders; and much of its success must depend on the care with which the system is worked out, and on the way in which the student-participant is compelled to work up and present his part of the exercise. That the method may be used in moderate degree should be admitted.

SECTION TEACHING AND INDIVIDUAL WORK

Two other methods of clinical instruction remain to be discussed; namely, so-called section teaching and individual work in hospital wards. It seems to me that many practical considerations demand that the two methods be combined. Abstractly we may say that the student should work out everything by himself in ward and laboratory. Practically, it is acknowledged by all that the student must have supervision and help. Abstractly, we may say that all instruction should be individual. Practically, we cannot furnish instructors enough; and there are other difficulties. Abstractly, we may say that the teacher's criticism and discussion of a student's work pertain only to that student's work. Practically, we know that a valuable by-product of that discussion and criticism may fall to others who are near enough to know the facts under consideration. Teaching in small groups, therefore, appears to combine the maximum of efficiency with the minimum of supervision and expense.

The maximum of value in this type of sectional instruction will be found neither when the teacher demonstrates everything, nor when he simply turns the student loose in the ward and laboratory and says, "Do so and so." The maximum of value is somewhere between these extremes. It will vary in position with the advancement of the students and with other conditions. We need not try to locate it exactly. It is of more importance just now to decide how many students a teacher may properly supervise and the length of time to be spent in this work. Our correspondents are united in affirming that the sections must be small. Twelve is the largest number named, and a big majority favor sections not larger than six. They assert further that two or three (or four) hours a day for six (or seven!) days in the week and over a period of eight to twelve weeks should be spent by each senior student in ward and laboratory work on actual cases of disease.

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MEDICINE SHOULD BE A UNIVERSITY DEPARTMENT

We must, complacent gentlemen, *we must* organize this inexpressibly important teaching on a *university* basis. At the present time, as Dr. Blumer has frequently said, it is like chemistry forty years ago. At the present time, in many of our schools, sick people are like the instruments in the physics cabinet thirty years ago bearing the notice, "Students must not touch the apparatus." First of all, we must open the cabinets, that is, the hospitals. Secondly, we must organize the teaching so that students may properly use the apparatus, that is, the patients. Incidentally we shall find, as did physics, that many more teachers and much more apparatus are needed the instant that the university type of instruction is adopted.

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Organization, tact and persistence will do much. Scattered and inadequate hospital privileges will bear fruit if cultivated and fertilized. By fertilization we mean all that the medical school can do for the hospital. Have not the schools heretofore asked much and given little? The relation should be *quid pro quo*. And in addition to moral support and other help, the schools may well afford to pay money for their clinical privileges. Often a very moderate annual sum will secure affiliations of great value. The school may properly conduct the laboratory of the hospital or furnish a paid pathologist or support a number of free beds. Gradually the schools can gain control of the staffs; but even pending that all-to-be-desired day, tact and weight of opinion may secure working cooperation. The staff-surgeon has the reputation, it is true, of lying full length in the trough while he eats. But the medical man has often no more than two legs in his victuals; and the man trained a generation ago, who ought not to try to teach under the new conditions, will sometimes move over a bit to allow the young instructor a chance — on the charity cases!

Seriously, while admitting the real difficulties above indicated, I must express my appreciation of the unselfish zeal of many of the older type of medical teachers and of their willingness to give up their authority, when the good of the school demands the sacrifice. It is ours to demonstrate that a new prophet is come and the sacrifice is due.

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NEED OF MONEY FOR PAID TEACHING

Gentlemen, complacent gentlemen and complacent public, you have got to spend money on the teaching of medicine. You cannot expect a busy practicing profession to teach; and even if you had a right to expect it, this profession could not fill the bill; for the profession of medicine is not the profession of teaching—and "no man can serve two masters." Practitioners may give valuable help but they cannot bear the larger burdens.

But if you had the money—which admittedly you have not — how would you spend it? As everybody knows we have not bred the self-perpetuating race of clinicians and teachers which has made the German medical schools the models of the world. We have produced a few promising men, already well placed. But the wise school, attempting to build up medicine on a university basis at the present time, will look for a young and vigorous "sport" (I am still using the language of the breeders), and will hope from him to develop the new species of clinical teacher. Select a strong young man who has done some research work in the fundamental sciences and has had a good clinical experience, and tell him to swim or sink. If he sinks or if he drifts into the maelstrom[1] of practice, let him go and get another idealist still in his early thirties. Pay him well for his services. Pay him more than the laboratory head, if you must. I say this with misgiving, for I cannot think one kind of service intrinsically more valuable than the other. But on the other hand, the law of supply and demand cannot be denied. Surround this young man with other young men, some full-paid; others, part-time. Yes, and with old men too, men of experience, vision and zeal, who are willing to cooperate for better things. Presently we shall think the millennium is indeed here!

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Gentlemen, the need of higher ideals is very great. But can we suggest methods which will at all help to meet the demand?

If you will pick up almost any book on principles of teaching you will find a chapter on "Responses of Conduct" or "Moral Training." You will find that the psychologists trace the elements of character very far in the complex web of existence—farther indeed than the life of the individual, for there is evidently an important hereditary factor. "To expect school education to determine moral development." they acknowledge, "is like expecting a city water-supply to abolish all sickness." But at the same time they point out that the teacher can "do a little of what so much needs to be done." And we think the department of medicine also can do a little of what so much needs to be done in its sphere of education.

TEACHING BY EXAMPLE MOST IMPORTANT

The department of medicine enjoys the advantage of being able to teach by example even better than by precept. It can place before students worthy examples of men devoted to science, the advancement of knowledge and the amelioration of suffering. It can develop the instinct of workmanship. It can teach a man to do honest work. Any man who learns to do something useful is a better man tha[illegible]ave been otl[illegible] to his scientific knowledge and to his ability as a thinker. This is not saying that we should teach the latter to the exclusion of the former. But it is saying that in our zeal to produce a competent technician we must not narrow the mental horizon — that we must not submerge the science in the art. This is a real danger, to be borne in mind in every readjustment of curriculum by which didactic instruction is supplanted by technical instruction and in all teaching, especially of the latter kind.

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Finally let us recall the seventh of our aims formulated *for a department of medicine:* To inculcate the ethical and professional ideals of honor, self-respect, altruism and social consciousness without which medicine degenerates into a business or a trade. Is there not need that something be done in this direction? Does not the wide-spread distrust of the medical profession indicate that something should be done? Does not the unrest in the profession demand that something be done? Can we deny that many of the profession are money-mad? Does not cut-throat competition beat the oil business in its worst days? As deans you doubtless often receive from doctors offers to sell their practices or notices of desirable locations for young physicians. Did you ever get one that told of the good a physician could do in that community? No; they say rather, "Practice worth $6,000 a year. Collections good." Or they say, "Little competition here. The other doctors are old fogies. I came here six years ago without a cent and have saved $15,000."

Gentlemen, the need of higher ideals is very great. But can we suggest methods which will at all help to meet the demand?

If you will pick up almost any book on principles of teaching you will find a chapter on "Responses of Conduct" or "Moral Training." You will find that the psychologists trace the elements of character very far in the complex web of existence—farther indeed than the life of the individual, for there is evidently an important hereditary factor. "To expect school education to determine moral development," they acknowledge, "is like expecting a city water-supply to abolish all sickness." But at the same time they point out that the teacher can "do a little of what so much needs to be done." And we think the department of medicine also can do a little of what so much needs to be done in its sphere of education.

TEACHING BY EXAMPLE MOST IMPORTANT

The department of medicine enjoys the advantage of being able to teach by example even better than by precept. It can place before students worthy examples of men devoted to science, the advancement of knowledge and the amelioration of suffering. It can develop the instinct of workmanship. It can teach a man to do honest work. Any man who learns to do something useful is a better man than he would have been otherwise. Moreover an overpowering interest in his occupation keeps him from distracting and lowering influences. This interest the instructors in medicine should arouse. Says Thorndyke, "A man's conscience is not the producer but the product of his career." If this be even partially true, habits of thoroughness, persistence, punctuality and patience have real moral value. These habits the instructors in medicine should help to form in their students. The field of preventive medicine should be traversed as the great altruistic fighting-ground of our science. Finally by a host of shining lights such as Pasteur, Livingstone, Walter Reed and Ricketts, it may be shown that the enduring stars in the esteem of mankind are the morally great and not the flaming rockets of worldly success.

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[1] The metaphor would seem to imply that this athlete may swim moderately in "practice" waters, provided he does so for his own development and not to the weakening of his powers for the race in which he is entered.

We as deans and officials have our part. We help to select the teachers and thereby accept a great responsibility. I remember an instructor who never wrote a prescription on the blackboard without saying, "This will be worth two dollars to you fellows"; another who frequently spoke of his large practice and admonished the students not to be afraid of any kind of surgery when they went out of school. Both these men, I am glad to report, have discontinued their activity as medical teachers. I know a surgeon who recently, for reasons of his own, sold his big limousine and now drives to the college in a little runabout. I venture the suggestion that that surgeon is now a better teacher!

CONCLUSION

The weakest part of medical teaching is general medicine. It should be the strongest. It should be a university department, like the other divisions of biologic science. It must be given its laboratory; that is, a hospital. It must be given its equipment. It must be given its material. It must be given its personnel; that is, paid scientists and teachers who devote their time to this work. It must have money. The problem of teaching general medicine is the great problem in medical education. You have built a good foundation, gentlemen; but you have put on a temporary roof at the height of the first floor, and you are holding divine services in the basement. It is time to build the church.

THE TEACHING OF PSYCHIATRY *

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A great deal has been written and spoken in recent years on educational reform. Much has been mere intellectual soapsuds, beautiful as the prismatic colors on the surface of a soap-bubble but having no more substance. Some of the criticisms of present methods have been wise, sane and practical, written by competent men not hunting for popular acclaim, and it is to be hoped that in the slow but steady progress of time, a progress rarely helped by noise, the opinions of these men will prevail, and that the reforms which they have suggested will be put into effect.

To-day, however, the quiet man who knows, he whose words should carry weight and have authority, has less chance to be listened to than that other man who knows how to write or speak in the style of a newspaper headline. The newspapers and the cheap magazines have attempted to usurp the intellectual rulership of the country and have caused much commotion with little motion forward. The more intellectual classes, who rarely read the papers, have no realization of the tremendous influence the printed word has in molding public opinion. The press is the bible of the masses and their faith is unshakable.

In this day of unrest, largely emotional, and only in minor degree intellectual, when the people have decided that everything that our forefathers thought right is really wrong, when we are informed that everything that has been built up must be torn down, when all our energies must, as we are daily told with all the fury of hysteric preaching, be wholly devoted to "the moral uplift" of everybody else, forgetting that a man's first duty is to himself, when everything is made a moral question whether it really has anything to do with morals or not, when authority has no standing in the court of public opinion, when the public dares to be a court, and, what is worse, has power to enforce judgment, when the amateur holds a higher place than the expert, when to have devoted a lifetime to the study of any subject proves poverty of mind, when we must have a new remedy for every ill every day, and when we must bring the millenium in six months or die in the attempt, even the poor, quiet, harmless students of minds diseased must be victims of the triumphant muckrakers and are expected to sit in sackcloth and ashes and do penance for not teaching their pupils all the newest formulas for mentally and morally regenerating the whole world.

I have been led to use the above rather truculent and perhaps petulant introductory words because for a long time I, with many others, have had to listen to much thoughtless criticism on teaching, and especially on the teaching of psychiatry to medical students, and finally have been made to feel that something ought to be said by one who is, in the technical sense, not a progressive. I have learned, as every one must, much from criticisms and suggestions made by teachers and men experienced in educational matters, but more than once my usually calm temper has been ruffled when I have been compelled to listen to long lectures on educational reform by enthusiasts innocent of training and experience whose ignorance was crass and their conceit colossal.

Now I wish at the outset to make several confessions: First, I have never personally known a genius who devoted himself to teaching psychiatry. Second, psychiatry is the most backward of all the sciences fundamental to the art of medicine. Third, the time devoted to mental diseases in medical schools is too short to teach anything beyond the alphabet. Fourth, I have not yet been convinced that the study of formal psychology throws any light on psychiatry. By "formal psychology" I do not mean brain physiology or sociology, or pedagogics, or social politics, but that department of knowledge which takes for its subject the question "How does the normal brain think?" I am well aware that the newer psychology does not concern itself with this matter but with education, especially with making the road to knowledge easy, with training the feeble-minded so that they may be more competent to be vicious and criminal, with questions of social policy such as the proper treatment of criminals in order that we who, as we are told, have simply been canny enough to keep out of jail may be proper companions for them, and with the invention of religions with God left out. No serious-minded student of psychology will be offended at this statement. On the contrary he knows and appreciates at his true value the type of man of whom I am speaking.

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* Read at the meeting of the Philadelphia County Medical Society, Feb. 26, 1913.

Without further preliminary let me come to the gist of the matter and take up the question of the method of teaching psychiatry. I must first beg you to believe that though this paper concerns myself, concerns how I teach, or at least try to teach, it is not written with any desire to obtain advertisement, nor with a feeling of self-content with what I have done but solely with a view to let everyone who may read it know that psychiatry is to a certain extent taught, a fact which is not generally known, in some American medical schools and that the men who teach are doing their duty conscientiously. I use my own course at the University of Pennsylvania as an illustration of what is being done in teaching psychiatry, not because it is the best, for I do not know that it is, but simply because the University of Pennsylvania is the only school with which I am thoroughly acquainted. I know that there are other schools in which excellent instruction is given. I am quite cognizant of my own defects.

The practical questions in the teaching of psychiatry are: 1. How many hours should be given to it? 2. During which year or years? 3. What proportion of the teaching should be didactic, what clinical? 4. What, if any, preliminary, premedical subjects should be required or are desirable? 5. What particular subjects should the instructor attempt to teach? I shall first give an outline of my own course and then take up a brief discussion of each of the above questions.

METHODS IN USE AT THE UNIVERSITY OF PENNSYLVANIA

Whatever specific thing a man does, whatever his work may be, the manner of his doing it is influenced consciously, and still more unconsciously, by his general and complete attitude toward life. This is true of the teacher as of every one, and hence my course of teaching depends on my conscious and unconscious outlook on life as well as on my specific opinion at to what a physician is. As to the former, no man knows himself nor what his real outlook is, but as to the latter, I am strongly of the opinion that the function of a physician is to take care of the sick; whatever else he may do is outside that primary purpose and therefore my whole course is intended to teach the students that one thing. The important thing in caring for the sick is to learn how to discover what is the matter with them; therapeutics is then easy, though official therapeutists will not admit this, and hence great stress is laid on diagnosis, in other words, how to use the senses and when to use and how much to depend on instruments of precision.

To come to more particularity, I have thirty-two hours, one hour weekly, with the men in the third-year class throughout the year, and ten hours with each third of the fourth-year class during the second half of that year. In my course to the third-year men, I begin with five didactic lectures on the causation and general symptomatology of insanity. In these lectures I try to show the students that, though we know nothing of the processes occurring in the brain producing thought whether normal or abnormal, there are certain known predisposing and exciting causes of mental disease. I stimulate them to study biologic chemistry because by means of it will be discovered the real cause of mental disease.

In the lectures on symptomatology I endeavor to impress on the students the necessity of a clear conception of symptoms, describe and define them, and point out how different symptoms are grouped together in life. Beginning with the sixth lecture the course becomes clinical.

In the clinical lectures I do not follow the theoretically logical method of taking first the simple types of insanity and proceeding to the more complex as is the proper and scientific method of treating the subject in a systematic text-book, but take a few of the great types and group others around them, though often they are not the insanities which could be mistaken for each other. There is not time for me to give reasons for this method, to explain why, for example, paranoia and melancholia should be studied in association. I have found, however, that such a system works out well.

I begin with paresis as the great classical type of insanity associated with gross organic brain disease. Having finished with it, I take up the other insanities associated with gross disease, arteriosclerotic insanity, that associated with apoplexy, etc., and point out the similarities and differences of each. In contrast to these I next take up, still clinically, paranoia as the type of the great essential insanity without gross brain lesion and group around it mania, manic-depressive insanity and melancholia and show their likenesses and differences. I then take up the matter from an entirely different point of view and give clinics showing the influence of age on symptoms and compare the insanity of adolescence with the true melancholia of middle life and with the insanity of senility. Again, I take a different point of view and study a few of the insanities which have a definite, single, exciting cause, such as alcohol, cocain, lead, the poisons of the puerperium, and of the acute infectious fevers. The material at Blockley is so large that I am enabled to make the clinics follow each other in systematic order. Throughout the whole course I emphasize the fact that soil is more important than seed, that only certain natures can become insane. Here ends the clinical instruction to the third-year men. The few remaining hours are devoted to didactic lectures on treatment, classification, the medicolegal and sociologic aspects of insanity, and the means of prophylaxis.

In the fourth year the class is divided into thirds. I give neither clinics nor didactic lectures but have patients brought in and I and one or another of the students examine them and I give an informal talk concerning diagnosis and treatment. During his course each student sees, talks with and examines patients suffering from the common insanities.

Very serious criticism is often made of the teaching of therapeutics in mental disease. The gentlemen who write popular articles for the magazines have impregnated the public with the idea that adenoids, lateral spinal curvature, ocular defect, and other like things are the cause of all insanity: that feeble-minded children can be made strong-minded by some simple surgical operation, such as cleaning out blocked nasal passages or some other similar act and that moral degeneracy can be cured by trephining the skull. Every teacher of psychiatry is repeatedly taken to task for not teaching such nonsense. You would be astonished if you were told the number of times teachers are asked by self-appointed advisers to give many hours to fads. The real evil of this matter, though it does not properly come into the subject of this paper, is the immense harm such talking does to the near relations of the insane. They are buoyed up by hope. Their emotional fall into despair when such hope proves unfounded is terrible. A fundamental ob [illegible] tea [illegible] peutic [illegible] students that [illegible] is the man greatest regret is that I have not time to teach practically methods by baths, massage, etc.

Now it is impossible for a man of average mind, or even of mind beyond the average, in such a small number of hours, to take in, digest, absorb and remember all that is given to him in this course, though really it is not so much as it looks to be on paper, and it is not expected of him. The problem is, how to handle the matter so that he will retain as much as possible. Constant repetition helps much. A student who is told, every time a patient comes in, that the first thing he must do is to look and not look so closely that he will not see something which really is staring him in the face, will finally learn how to observe. The student who has it constantly reiterated to him that the unconscious behavior of the insane always throws some light on the case, even in such apparently trivial matters as the way a patient walks into the room, will soon begin to observe conduct and further will learn deduction—the method of Zadig. The student who sees patient after patient examined methodically as to memory, delusions, hallucinations, emotional tone, mode of speech, manner of acting, and for physical signs will soon learn methods. Now the teaching of method is more important than the teaching of facts, for he who knows methods will teach himself facts and method is the thing every wise teacher lays most stress on, not so much by precept as by example, not so much by telling the student as by doing it and having him do it.

What is my end and aim in this course? It is not to make alienists; that were impossible. It is not to teach the theories of psychiatry; they are too numerous and, if I dare say it, too barren. It is merely to teach the alphabet of the science, to dig the cellar, to lay a sound foundation for a very simple building. This is my end and nothing more. I give no clinics on rare diseases. I give no lectures on philosophic hypotheses. I am a mere nursing mother to intellectual sucklings and I give no stronger food than milk.

The university does not possess a hospital for the mentally diseased and all the instruction in psychiatry is given at the Philadelphia General Hospital (Blockley). Curiously enough, the trouble is that material is too abundant. Philadelphia does not pay enough money for enough assistants to make it possible to study the patients there thoroughly. I hope that the university will some day have a small psychiatric hospital of its own. It should be a separate department with its own building. The proposition advocated by some that wards in general hospitals should be set apart for the insane is, for reasons that I have not time to give here, impracticable.

TIME TO BE GIVEN TO THE SUBJECT

Let us pass now to the five questions. First, how many hours should be given to psychiatry? We are confronted with the fact that a day is a fixed, inelastic period of time and by the further facts that we cannot extend the number of years devoted to medical study and cannot reduce the number of subjects studied. Of course every teacher wants to have all the hours for his subject he can get and I should like to have an hour daily throughout both third and fourth years. My mature opinion is, however, that the time I have is about as much as can be devoted to the subject in any school which gives a proper amount of time to the great subjects of practice, surgery and obstetrics. I think if a man will devote himself entirely to teaching the alphabet, to laying the foundation, so much can be done in this time.

Second, during which year or years should instruction be given? We can dismiss this speedily. There can be no question to-day that the time should be in either the fourth year alone or in the third and fourth years. No medical school worth the name permits any purely medical subjects to be taught in the first and second years.

CHARACTER OF THE TEACHING

Third, what proportion of the teaching should be didactic, what clinical? I am one of those men who some years ago wanted to abolish didactic teaching altogether and have everything clinical and wrote a rather emotional paper on the subject. Since then I have been forced to conclude that I was too radical and that there is a distinct place for didactic teaching. Certainly such subjects in phychiatry as the causes of insanity and general symptomatology can best be treated in formal didactic lectures. Further than this even, I think it is wise to give a didactic description of each type of insanity before proceeding to its clinical and ward class study.

Fourth, what, if any, preliminary premedical subjects should be required or are desirable? I am here concerned with subjects preliminary or introductory to psychiatry and not with the question of the proper educational requirements for admission to a medical school. The only subject which has ever been suggested is psychology. The old psychology certainly does not make the study of psychiatry any easier or any clearer, nor does it hold out any hope that it will solve any of the problems as to the real causation of insanity, which after all is the great question ever confronting us and, so long as it is unsolved, preventing progress. Cerebral physiology, the study of sensation including the special senses, the reflexes and speech, is not psychology but physiology and is best taught by that chair. These things studied in a general way as a part of biology are useful as a preliminary study to all medicine and are required in the better schools. They are of great use in training the youth in biologic methods which the medical student of to-day must use from his very entrance into the school and because they teach him a vocabulary that he would otherwise have to learn in the medical school, but their special and exhaustive study is best left in the hands of the professor of physiology.

Of recent years the whole content of psychology has changed and now its students occupy themselves with subjects of an entirely different kind than formerly. The popular psychologist of to-day, and he is the man who has most influence with the public, if he wishes to be thought up-to-date, studies, or at least writes about, matters of education, especially the education of the feeble-minded, a class which some of us think should receive no book learning, and numerous other subjects affecting the general welfare of the race, such as heredity, the rights of children, making cortical cells grow where none were planted, the weighing of souls; thought transference, magic, both white and black, and how to make silk purses out of sows' ears. Frankly, I do not think that an undergraduate, whether in college or in a medical school, should be expected to devote time to these matters. They are, some of them, subjects of great importance which require years of study really to learn anything about, and others are things wise men only play with or ignore, but none of them is preparatory to medicine. Some of my best students have been men who had had a thorough training in and taste for the humanities and I think such training is desirable for any youth who has the mind to receive it, no matter what his life-work is to be, but I am very old-fashioned. I am sometimes inclined to believe that the study of Don Quixote, with special attention to the wisdom of Sancho Panza, would do much to develop the reasoning power of many youths and thus help them in medicine.

SUBJECTS OF TEACHING

Fifth, what particular subjects should the instructor attempt to teach? I think one great mistake that many teachers of all the specialties make is that, instead of devoting their time to the humdrum teaching of fundamentals, they are prone to succumb to the temptation, always hard to resist, to give brilliant clinics on interesting cases of rare diseases. This is proper for post-graduates but the student who has no clear conception of what a delusion is should have that well beaten into his cerebral cortex rather than sit in open-eyed wonder and adoration, but with no comprehension, before a man discoursing learnedly on a patient showing the newest symptom-complex recently imported from Germany.

One criticism often made is that students are not taught the philosophy of mental disease. As I do not think that such a thing exists it would be rather difficult for me to teach it. In regard to this whole matter of philosophy, I confess I am entirely out of sympathy with the newest psychology of all, a product of medical minds, an alleged explanation of many psychoses, which claims to have discovered a means of mental cure—so-called Freudism. It is a part of the general sexual-mystic philosophy which is becoming more and more wide-spread and is itself a symptom of the madness of the times. It contains so little truth and so much error as to be useless. More than that, it is harmful. It claims that therapeutically psychanalysis is of great value. This psychanalysis really resolves itself into a searching and, to men holding every-day views as to morality, filthy examination into the past sexual life, repeated if necessary time and time again and lasting over a period of days or even months. It is largely a science of words and has developed a large vocabulary—"projections," "splitting of consciousness," "repressions," "conflicts," "dissociations" and many more. It is based on the wildest conjectures and offers the filthiest possible explanation of mental disturbances. Surely the sexual element in insanity is large enough without trying to make it more important. The supporters of Freudism are making great endeavors to force its acceptance and a few are even trying to compel state boards of examination to enforce its teaching in the schools. It has, of course, for that is always the case, attracted much more attention, and been taken much more seriously in America than in the land of its birth. To me it seems much wiser to teach students the commonly accepted clinical and pathologic facts about insanity and to ground them well in methods of examination, than to spend time lecturing on such matters. After students are graduated and when they know something about psychiatry, and something about humanity, they can judge for themselves the truth or falsity of such hypotheses.

Criticism is also made that teachers of psychiatry do not encourage undergraduates to do research work. The critics seem to think that any youth can be made into a real "research worker" if only he is properly taught. Now there is unfortunately no formula for the manufacture of men of the scientific type and to try to make an investigator out of a man not born such is often to spoil one who might have been a very good practitioner of medicine. The word "research" has come to have a very artificial meaning when used by certain men. To them it means only labor in the laboratory and usually it results in a dreary history, a long account of a necropsy, a tremendous list of references, preferably in foreign languages, ending with a rediscovery of an obvious and well-known fact. If the paper be written in slovenly English, and with every endeavor to make it as uninteresting as possible, it is the more to be praised. This is not research and it is not science. Science is only knowledge: it is not a particular brand of knowledge and there is much still to be learned at the bedside. The time of the average student is fully occupied doing his ordinary work and I do not think it well, therefore, for him to attempt research work. There are, however, always in every good school, and sometimes in worthless schools, a few undergraduates who are born investigators, men who see what they look at, who have clear mental vision, who recognize real relations between apparently unrelated things, who have an individualistic mental attitude uninfluenced by the prevalent dogmas of their day, who seize the gist of things and let the chaff go; these are the real youths of science and they ought to be encouraged from the start. Fortunately they, for the most part, need no encouragement but only opportunity. They are competent to cut their own path through this world.

Now as to the results: I think all the men leave the school with a real knowledge of the fact that insanity is a disease just as typhoid fever and tuberculosis are diseases and that it is controlled by the same laws. I think that the majority have a fairly clear idea of methods of examination. I think that almost all know that the delirium of fever and of drugs must not be mistaken for acute insanity and realize the responsibility they will assume in signing certificates. I am sure that few of them could, either from a case history or by examining the patient, make a correct diagnosis of the type of insanity present, unless possibly it was a text-book case of paresis or paranoia, melancholia or an exhaustion psychosis. I believe that more than a few are stimulated to such an interest in the subject as to continue to study it after graduation. I believe a few will make some real contributions to knowledge and possibly some one among them will make a fundamental discovery.

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THE TEACHING OF INSANITY

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I am firmly of the opinion that mental diseases should be taught just as are other diseases, namely, both didactically and clinically, and, as far as possible, the teaching should be brought into relation with internal medicine; for if there is one truth that our knowledge of the subject justifies, it is that the insane man is a sick man. The teaching should be of such a nature that when the student finally enters practice, he will be able to recognize the common and every-day forms in which mental disease manifests itself. It is the general practitioner, the family doctor, who sees the sick man first and the doctor should be sufficiently well informed to be able to recognize the [illegible] diseases in their early stages. He sh[illegible] k[illegible]t to do [illegible]ven conditions, when [illegible] not [illegible]atient to an asylum and how the patient should be treated in his own home or outside of an institution when this is practicable.

In my opinion theoretical considerations should enter but little into a course on mental diseases in a medical school. As far as possible, emphasis should be laid on symptoms, course, prognosis and treatment. In the main the latter consists of the application of supporting *measures which promote nutrition* and improve the general health. The student should also be taught under what conditions to employ medicines, the iodids, the mercurials, the glandular extracts and the various remedies and measures to produce quiet and sleep. That *physiologic methods*, rest, bathing and exercise should be emphasized, it is unnecessary to add.

There is at present a strange and unfortunate tendency to drop the practical study of insanity, that is, to abandon the study of the symptoms of these diseased states *and to take refuge* in psychologic speculation. A school has arisen in Vienna in which all of the phenomena of mental disease, as well as of the functional nervous disturbances, are attributed to sexual crises and traumas experienced in childhood; a new system of psychology has been evolved. Delusions are supposed to have their origin in the formation of special psychic complexes, that is, groups of associated ideas the result of sexual traumas. The memory of the sexual occurrences being often unpleasant, they are repressed and we then have a group of ideas which is dissociated from the rest of the personality of the patient. In other words, the personality is supposed to undergo cleavage or dissociation. The repressed complexes, however, overcome the resistance which the patient interposes, and, working themselves more or less to the surface, reach the field of consciousness, though often in a distorted form. During this process, conflicts occur within the personality and the symptoms are supposed to vary as one or another group of ideas fills the field of consciousness. It is further maintained by Freud and his followers that, if a repressed symptom-complex be given free vent, the patient is relieved and cured. Unfortunately, when we come to look at the reports of cases, *we find that they* are cases of ordinary and every-day hysteria and that the time required to effect a cure in such cases varies from six months to three years, most frequently three years. Assuredly, even admitting the theory of repressed sexual complexes, *in itself improbable* and essentially untrue, the prospect of curing an ordinary case of hysteria only after three years of daily or almost daily conversations, the conversations occupying about an hour at each session, is not very encouraging.

Unfortunately, and this is the point which is so distressing and alarming, men have not been found wanting who have carried this theory into the field of mental disease *itself, that is, into the study of asylum cases.* If there be one disease that justifies the opinion that it is a disease of morphologic deficiency, a disease of inadequacy, both mental and physical, that disease is dementia praecox; and yet physicians are found, among them Bleuler and Jung, who endeavor to apply the explanation furnished by the Freudian theory to dementia praecox. Bleuler, for instance, says that the cases of dementia praecox are at one time ruled by one complex and at another time by another complex. In stating this fact, he has merely pointed out a truth which is as old as the days of Kahlbaum and Hecker, who made their first studies in 1863 and 1874. The latter pointed out in the clearest possible way that the average case of hebephrenia passes first through a phase of depression and secondly through a subsequent phase of expansion. On the bases of these facts, themselves not new, Bleuler ventures to change the name of dementia praecox into "schizophrenia." "Schizophrenia" literally means "cleft-mind," "divided mind," but Bleuler forgets that all mental disease means more or less mental disintegration. Every case of hysteria that has a paralysis of the arm has the centers of that arm dissociated from the other centers of the cortex, so the arm no longer forms a part of the personality. In every case of mental disease in which the patient hears himself addressed by his hallucinations, there is a dissociation of the mental make-up. If we are therefore to employ the term "schizophrenia," it must be applied to all the forms of mental disease in which dissociation of any kind is present. Further physicians have learned—and there is no teacher so good as that of experience — that the only possible hope in dementia praecox lies in the upbuilding of the patient, the placing of the patient, by means of full feeding and simple physiologic measures, in as good a physical condition as possible. That of course every case requires retraining, a rational psychotherapeutic procedure, in addition to the employment of purely medical measures, every practical physician knows. *We need no absurd* theories of psychanalysis to prove this fact to us and yet Bleuler in his most recent contribution on the subject in the "Handbuch der Psychiatrie," states that psychanalysis offers the only hope for the cure of dementia praecox. I leave this subject to the calm judgment of the every-day practical physician. Such an important clinical fact that almost all dementia praecox patients possess a fatal vulnerability to tuberculosis, that they die in large numbers of some form of abdominal tuberculosis, is swept aside or utterly ignored by the disciples of Freud, and yet this single fact of the susceptibility of the dementia praecox patient to tuberculosis must have a deep and profound meaning and proves more than any theoretical consideration possibly could prove that the study of mental disease must be approached from the standpoint of internal medicine.

The grave danger that confronts the medical student of to-day is that it is actually proposed *to introduce in* the place of rational instruction in mental disease, this so-called "newer psychology." It may be granted that now and then the latter may offer a possible explanation of a symptom but the fact remains that it cannot and *does not cure. The absurdity existed a few years ago,* and doubtless is perpetuated in some of the asylums to-day, of having a young lady psychologist, generally a girl hardly out of her teens, to work up the psychology of the patients. This young person was always one without a particle of medical training. Could anything be more monstrous or preposterous? And now it is actually proposed to force into the already overcrowded curriculum of the medical student, the study of a subject alike barren and theoretical, to take the place of the teaching of internal medicine, of which insanity is but a part.

1719 Walnut Street.

Anaphylaxis and Infectious Diseases.—We are compelled to change our ideas concerning the causation of the lesions of the infectious diseases. Formerly we believed the structural changes to be due wholly to the living, growing, feeding microorganisms. For instance, we were sure that the intestinal ulcerations of typhoid fever are caused by the living bacilli. Now we know that these lesions follow the intravenous injection of dead proteins.—Victor C. Vaughan in *American Journal Medical Sciences.*

SAVING THE BACKWARD SCHOOL CHILD

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The backward school child, so misunderstood and non-understood, so mistreated and non-treated, so unconsciously and unintentionally encouraged and compelled to grow continually more backward is a comparatively new human product. As a rule, the children of this class have lingered in the lower grades without making the customary advancement. Moreover, *they often drop to* still lower grades when the causes of their backwardness are not removed, and many show traits of abasement and disgrace which are due not alone to physical or anatomic causes, but are, as a rule, of the nature of deteriorations or non-developments of functional, physical, moral or intellectual characteristics.

These discriminations are fundamental and to be borne in mind if we are to set these children right in school and, *more than that*, in life. Because, in the young especially, we have still to learn that functional disease precedes and causes structural abnormalism, aberrant physiology degenerates into pathologic anatomy, and curable mental twists, perversities and malworkings of functionally abnormalized minds harden into insanity and criminality.

Since 1845 *a constant series of books and reports* of reputable physicians has been appearing, all pointing out that malfunction of the eyes, the most valuable of our sense organs, is a great source of disease, not only of the eyes themselves but of the general system—and especially of the nervous system. Of late, it has been clearly seen that civilization multiplies enormously the causes of eye-strain, and that as a result nervous and mental diseases are rapidly increasing with a frightful growth in the general morbidity rates. Suicide of children and also of adults in all countries is in exact proportion to the number of hours of study per week demanded of school children.

According to a bulletin of 1912, the U. S. Bureau of Education says that 25 per cent., or about five million, of the school children of our country have defective vision, and that about 75 per cent., or about fifteen million, of the school children in this country need attention to-day for physical defects which are prejudicial to health and which are partially or completely remediable.

The school child, degraded, functionally diseased, criminal in the making, is allowed to go on to utter failure mentally and physically, thus finally burdening the community with his permanent invalidism, criminality, expensive support in asylums, etc. What has been wanted all the time is a workmanlike testing the matter out on this, that, and another school child, and, so far as pertains to the eyes, *actual relief of eye-strain* and following up of results. This, in a small but illuminating way, has at last been done by an oculist of New York City, Dr. William Martin Richards, who was personally commissioned by the school authorities, himself carrying out the refraction work, supplying the spectacles, etc. The patients were the children who were below grade in two public schools, Nos. 4 and 44, Bronx, N. Y.

The clinical experiment was on thirty-eight pupils: thirty-two hyperopic, three myopic and three with mixed defects of the eyes. *The old contentions, therefore, are* so far illustrated, if not proved; namely, that hyperopia, hyperopic astigmatism and anisometropia are the causes of eye-strain and of myopia.

In twenty-six children the error of refraction was large, i. e., over 0.50 D., and in twelve it was small or less than 0.50 D. Thus the ancient error continuing to-day, but often disproved, that small errors of refraction are negligible, is corrected, the small error being given as *one of the causes of non-progress in one-third* of the children.

Of all examined only two were wearing glasses, and these two pairs of spectacles were outrageously incorrect, one child having with the old glasses about 20/75 in one eye of normal visual acuteness, and in the other eye less than 20/100. Despite the injuries caused by these glasses the first child was given by correct glasses nearly perfect vision in one eye and in the other about 20/40. The second child's old glasses made her vision (about 5/100) worse than no glasses, and the new ones *brought* 20/50+.

Of the thirty-eight children only three had approximately normal vision, which does not signify that even these three did not need spectacles. When a cycloplegic was used and the real error of refraction was revealed, it was discovered that they did need them.

For the thirty-five remaining patients, these are the findings, the figures referring to the natural acuteness of vision with both eyes: three had 20/25 or better; seven had about 20/30; nine had 20/40; six had 20/50; four had 20/75; two had 20/100; three had less than 20/100, and one was practically blind. Thus two-thirds of these children, whose occupation was study, had only one-half vision or worse with which to do their work. Not one had been told that he needed glasses! Compare these figures with the visual acuteness brought by correct glasses: in seven it was most perfect, i. e., 20/16; in ten it was 20/20; in seven, 20/25; in four, 20/30; in five, 20/40; in four, 20/50; the child who was practically blind, that is, unable to name any test object whatever, now sees perfectly, apparently. In most of the twenty children with less than normal acuteness of vision, the results of late use of glasses demonstrated that the deterioration of visual acuteness could have been prevented by correct lenses earlier in life. One exception was the case of a child operated on for congenital cataract. Another was that of a child who had a high amblyopia of 20/100. Her small refraction error proved that she made a mistake in her early answers, because after getting low-power lenses she had an acuteness of 20/16.

One of the most important and noteworthy results of these experiments is not mentioned by Dr. Richards: the cures were made with *no reference to or use of* myologic or heterophoric theories. One may trust that in future work of the kind, these effects of eye-strain may not again be falsely considered its causes.

The reports from the point of view of the principals, assistants, etc. of the school may be epitomized from their own words as follows:[1]

> Selection was made from among (1) the worst cases, of retarded children falling behind in their present grade; (2) those who had a history of school deficiencies; (3) ungraded children. Use was made of records of tests and records of promotions, *to determine problems.* Consultations were held by the grade teacher, assistant principal and principal before decision was rendered. In every case the consent of the parent was obtained.
>
> The pupils were in school from four to twelve weeks after the final fitting. A ten weeks' summer vacation interrupted our observations.

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[1] [illegible] own notes [illegible] public sch[illegible]

Number of children covered by this report:

Children from regular classes	29
Children from ungraded classes	11
	40
In Public School 44, Bronx at present	8
In Public School 4, Bronx at present	23
Discharged (transferred from Public School 44)	2
Transferred to other schools from Public School 4	5
Discharged from Public School 4 (over age)	2
Total	40

SUMMARY OF THE RATINGS

The first record was taken in January, 1912, the second was taken in June, 1912. In order to gain uniformity of opinion on the ratings whenever possible, judgment was given in the second record by the same teacher who placed the original standard. This report is unable to deal with four pupils of regular classes and one pupil of an ungraded class, because of their transfer very soon after wearing glasses.

Among twenty-five deficient children from regular classes, nineteen were promoted.

Among nine children from the ungraded classes one was promoted to a regular class.

An examination of the charts will show marked improvement in reading, arithmetic, spelling and penmanship. The very marked improvement in temper, irritability and power of concentration is a significant revelation.

In Public School 4 it would appear that considerably more benefit was derived by the older children than by the younger ones. This may have been due to the fact that our younger pupils received their glasses later than the older ones, and hence there was not so long a period for improvement to show itself.

In the regular classes the number of those receiving specially pronounced benefit in the grammar grades is eight; of those in the primary grades four.

In Public School 44 the children under observation were all in the primary grades, all of whom received promotion. (A detailed study of special cases is enclosed, covering pupils of regular and ungraded classes.)

OBSERVATION OF THE NINE UNGRADED CHILDREN

Two boys, ages 17 and 16, had reached the limit of mental, social, moral and individual growth at about the age of 12. Hence from these nothing could be expected and the teacher reports little or no progress generally.

The remaining seven are of that type which is exceedingly slow to show any improvement; therefore this report, showing growth is very remarkable.

INTELLECTUAL IMPROVEMENT

Arithmetic	2	Oral English	2
Spelling	4	Singing	1
Reading	4		

HABITS: ALL HAVE IMPROVED

Gymnasium	2	Power of sustained mental work. (In some cases the increase of power here is very great.)	7
Cleanliness	3	Power of concentration	2
Attention	3		
Lateness	1		
Control of facial muscles	1		

CHARACTER: ALL HAVE IMPROVED

Self-respect	1	Gain in self-confidence	1
Development in responsibility	1	Temper	1
Development in social instinct	1	Irritability	2

The extraordinary results, markedly pronounced in so many cases, justify the hope that many similar experiments will be made. The benefit derived by these children has been so great and of such a nature as not to be definitely measurable.

The following cases alone (aside from what has been done for the other pupils) has repaid many times the money, time and patience which were spent on this work.

In Public School 4, one boy's life was completely changed. His actions became more controlled and his entire view was altered. From a decided case for discipline he became a boy easily handled. He developed such a sense of responsibility that he was allowed to accept the nomination as head monitor. He was elected by his schoolmates and was perfectly reliable during his entire office. He showed an amount of school spirit unbelievable, if judged by his previous life.

Another striking case is that of a boy who was troubled with the worst kind of hallucinations. He made sudden outcries and told strange and horrible stories of what he thought had actually happened. He was exceedingly difficult to get on with. This boy has been made very much happier. This is evident by his facial expression, which could be easily characterized as sweet. To understand fully what this means, it is almost necessary to see this boy. He has been promoted.

A most remarkable case is that of a boy who had a temper that was maniacal. It was absolutely impossible to do anything with him, once he was aroused. He became tense, screamed, bit, kicked; and these attacks sometimes lasted an hour. These awful outbursts occurred every two or three days. He was a source of general annoyance to his classmates and in his lessons did practically nothing. At present the boy is gentlemanly, popular with his schoolmates, respectful to his teachers and shows no indication of temper. He is doing 5A work and his teacher's comment in speaking of him was: "Excellent in every respect."

In Public School 44 one child was as much handicapped as if he were actually blind. He was most unhappy and his facial expression fully indicated his mental state. Now his expression is actually sweet, and whereas previously he had been a nuisance and a problem, he is now a pleasure. He was *given a new life.*

Another remarkable case demanding special mention is that of a little girl in Public School 44 who, it seemed, would develop into a delinquent of the worst type. She was a truant from school, absolutely indifferent to her work, morally bad, associated with objectionable boys and stayed out late at night. The transformation is wonderful. She comes to school regularly, works hard, appreciates what her teachers have been trying to do for her; and we now feel that we need have no further fear concerning her moral life. Her character is growing to be such that it will be impossible for her to be anything but a respectable member of society. This case alone was worth any amount of energy spent.

One boy admitted to Public School 4 was found to be practically blind. The eyes had no irises and the boy had never seen anything but very vague forms of large masses and then only those placed not more than 2 feet from him. He was laboring under tremendous nervous strain and was suffering greatly. His restlessness was so excessive that he could not be kept in an ordinary classroom and he was placed in the open-air class. The school doctor examined him and said nothing could be done for the boy. The school visitor called at the home and found conditions to be wretched. A charitable society had been caring for the family, and their agents had completely overlooked the condition of this child. The boy was admitted to the school for the blind, but the mother refused to allow him to attend there, because it was so great a distance from his home. She came back to the general public school with him. Dr. Richards' attention was called to this case. The result has been more than wonderful. This boy has been given eyes! He actually sees as does a normal person. When first the glasses were placed on him, and a vase containing flowers met his direct line of vision, the child became highly hysterical. He had never seen anything of that sort before and for him life had just begun. At present the boy is under the supervision of the inspector of the blind.

One girl of 13 had no idea of truth and honesty. She stole and lied. She gave up all such habits and has developed a sense of honor. She has been promoted.

Another boy of 12 was a hard disciplinary problem; he played truant last term, gained no promotion and showed no improvement. This term there has been no complaint about conduct and no truancy. He is in 5A grade and working satisfactorily.

H. T., aged 12, should have been three classes higher. He was inattentive and indifferent and his conduct was unsatisfactory. His conduct is now improved, he has gained promotion; the change is splendid.

> R. A., aged 11, showed steady mental and physical improvement between January and June. Her appearance is greatly changed for the better. The mother feels more interest in her child.
>
> Two brothers showed no improvement in a long list of bad symptoms. At last it was found that they had accidentally changed glasses with each other!
>
> L. S. lost his spectacles immediately after getting them and his parents refused to replace them or allow anyone else to do so. Eyes and general health are in bad condition and growing worse.
>
> M. D., a cripple needing operation, has now been promoted, cares for himself better and has improved self-respect; his carriage, posture, etc., are excellent.
>
> H. S. was almost blind; pains in eyes have now disappeared, but he is far from seeing well. In other respects he is wonderfully better; his former nervousness and irritability have vanished and he is eagerly making up lost time.
>
> J. L. had lost two years of school time and should have been four classes higher. He has been promoted.
>
> L. O.'s headaches have almost disappeared and her general health and work have improved.
>
> Several cases of non-improvement seemed probably due wholly or in part to great amblyopia caused by previous years of uncorrected ametropia, and this, for the short time reported, persisted after correct glasses were worn. Others were as plainly complicated by intercurrent diseases. Exceptionally wretched home-conditions of a number of children were perhaps responsible for the continuance of symptoms.

Dr. Richards estimates that there are about 78,000 children with defective vision in the public schools of New York and that there is no valid excuse for the failure to prevent this evil in 80 per cent. of all such patients. They are not prevented now, he thinks, because the principles and practice of refraction are not adequately and correctly taught in medical colleges. He believes that in New York there is a divided responsibility in the government of the schools; that a cycloplegic is not used to diagnose the errors of refraction in the 84 per cent. of hyperopic defectives, and that small errors are ignored although they have great influence in determining effort, proficiency and conduct. The result is that the accurate measure of the refractive errors of the school children of the city is impossible, and, moreover, if it were done it would be impossible to get the requisite spectacles made, adjusted and paid for. Lastly, diagnosis and treatment of defects and diseases of other organs than the eyes is not, by any means, at present feasible.

401 Oriental Avenue.

THE TREATMENT OF GONORRHEAL AND OTHER INFECTIONS WITH DIGESTIVE BACTERIAL EXTRACTS

PRELIMINARY REPORT

J. O. HIRSCHFELDER, M.D.
SAN FRANCISCO

In The Journal of Oct. 12, 1912, the production of active and passive immunity to the pneumococcus in the rabbit with an extract of the living microorganisms by an alkaline solution of pancreatin was described,[1] and ten cases of pneumonia were reported in which recovery followed its administration. Since that time, further animal experiments have confirmed these results and recovery has occurred in seven more cases, none of the patients treated having died. In the greater number of cases the crisis has occurred within twenty-four hours after the first dose of the extract.

With the gonococcus, experiments naturally could not be performed on the lower animals, but the clinical material was more abundant. The results thus far obtained are sufficient, however, to warrant a provisional report. The extract was prepared in the same manner as the pneumococcic. A suspension of the gonococcus was heated to 38 C. (100.4 F.) and to it an equal quantity of a 0.2 per cent. solution of pancreatin (Cudahy) in 2 per cent. sodium bicarbonate at 38 C. was added, kept at that temperature for fifteen minutes and then acidulated with hydrochloric acid to stop the action of the ferment. The mixture was then filtered through a Pasteur filter and was ready to use.

The dose usually given was 5 c.c. administered intramuscularly. Within a few hours in most, but not in all cases, reaction, in the form of chill with elevation of temperature of a few degrees, of short duration, and general malaise ensued. It was often observed that succeeding doses were followed by less reaction and sometimes by none at all, as if immunity had developed. As much as 50 c.c. have been given without especially unpleasant symptoms.

In gonorrhea of the male, both acute and chronic, in a few instances results followed which might be looked on as favorable; but in the majority of cases the effects were not such that a skeptical observer would have been compelled to acknowledge the value of the remedy.

In the female the evidence, although not conclusive, was somewhat stronger. Twenty-four girls confined in St. Catherine's Home, a penal institute, were given twenty-two injections each, administered biweekly, and in eleven of them the gonococci disappeared from the vaginal secretions.

On the other hand, in the municipal clinic the results were rather striking, especially in contrast to the preceding observations.

Of twenty prostitutes treated in the municipal clinic with the gonococcic extract combined with the usual measures, eighteen rapidly recovered, and on their return, as wards of the municipality, for examination twice a week, the continued absence of gonococci has been recorded. Some of the patients have thus been under observation since March, 1912. A patient who did not recover had a urethral gonorrhea. Her general health was poor and the cervix had an old retained suture. On September 19 she was put on the usual treatment until October 18, when 5 c.c. gonococcic extract were injected, the injection being repeated on the 25th. The following day it was noted that the cervix and urethra looked fine, with almost no discharge; but on November 14 the smear was positive. On November 15, 5 c.c. were injected and since then the patient has not returned, having probably left town.

The second patient was three months pregnant when treatment was begun. From May 2 until August 6 she received ten injections, when on three examinations extending to August 19, no gonococci were found; but later they were detected.

Of the others, ten were permanently cured by one injection, six by two, and two by three.

In all of these cases, male and female, local treatment was combined with the administration of the extract, so that the test was not a perfectly fair one; one must always be in doubt as to how much of the effect could be ascribed to the local ar [illegible] constit tional treatment. A far larger experience will be necessary to determine this point.

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[1] Hirschfelder, J. O.: The Production of Active and Passive Immunity to the Pneumococcus with a Soluble Vaccine, The Journal A. M. A., Oct. 12, 1912, p. 1373.

One patient, however, was treated by gonococcic extract alone at the City and County Hospital, proving the efficacy of the remedy as far as one case can do so. With this patient absolutely no other remedy was used, not even cleansing injections of water having been permitted during the whole time of her treatment. The patient, a girl of 17, entered the hospital with a cervical and vaginal gonorrhea of six months' duration, the discharges from both sources contained gonococci. Injections of the gonococcic extract were followed by rapid improvement in the subjective and objective symptoms, and after five injections had been given during twenty-one days, the gonococci had disappeared. Three further injections were made before the patient was dismissed, and on two examinations made before her dismissal no gonococci were demonstrable. She was treated later at the clinic for vaginitis and cervicitis, but during two months on three examinations, no gonococci were found.

It seems reasonable to assume that when the gonococci are present in the urethra, any antibody which might form in the blood would have difficulty in reaching them, and we would be prepared for a failure of the remedy under such conditions. The marked effects that were apparently produced in the resistant organs of the prostitutes are, however, rather striking.

In systemic gonorrheal infections the results obtained have been far more favorable.

We have treated seven patients with epididymitis under the care of several different observers, and all but two have rapidly recovered.

The first relatively unfavorable case occurred in a patient in the care of Professor Rigdon. This patient entered the hospital with gonococci in the discharge, the right epididymis and testicle about twice the normal size, and a large sensitive nodule in the tail. After three injections marked improvement occurred, but on account of severe pain from the injections (the only case in which much disturbance had been noted) the patient left the hospital and reported at the clinic. Continuation of the improvement was noted. Nine days later it was recorded that the epididymis was almost normal. In nine days from that date, however, it again began to swell and the patient was sent to the hospital, where an epididymotomy and vasotomy were performed.

The second relatively unfavorable case was likewise in a patient in the care of Professor Rigdon. This patient presented himself with his third attack of gonorrhea at the dispensary, Nov. 18, 1912. At that time the testes were normal. He received the routine treatment and was also given 5 c.c. gonococcic extract, followed by reaction. On the 25th it was noted that the discharge was much lessened, but two days later epididymitis had developed, for which the patient was sent to the hospital on the 30th. There he received the usual treatment and in addition was given an injection of 5 c.c. gonococcic extract; this was repeated December 2; both injections were followed by reaction. December 4 it was noted that the testicle was decidedly less swollen. The patient received 5 c.c. December 4 and 5 with the usual reaction, on the 7th with slight and on the 8th with none. The epididymis remained the same size, and on the 9th he was given 8 c.c. with slight, on the 10th, 16 c.c., and on the 11th, 18 c.c. with decided reaction. On the 12th the history notes that the local condition was the same as on the 8th, except that the caudal extremity was soft. The patient was given 20 c.c. followed by rise of temperature to 102. He left the hospital and presented himself at the dispensary, where further slow improvement was observed.

In all of the other patients treated, the beneficial effects were rapidly produced. The following three were treated by Professor Rigdon:

Case 1.—The patient, who had acute gonorrhea with epididymitis was treated May 27, with emulsion of buchu and oil of sandalwood,[2] and Caspar ointment[3] to scrotum, and was given 10 c.c. gonococcic extract. On June 3 it was noted that there was marked improvement in every way; 10 c.c. were given. On the 7th the epididymis was much reduced in size and on the 15th it is recorded as normal.

Case 2.—The patient came to the dispensary with acute gonorrhea for which he received the usual treatment. On October 15 acute gonorrheal epididymitis involving the left testicle had developed. He was put to bed, compresses of saturated solution of magnesium sulphate were applied, and 5 c.c. gonococcic extract were injected. On the 22d the testes were normal.

Case 3.—The patient presented himself, September 30, with gonorrhea which received the usual treatment. November 15, *the right epididymis was inflamed.* The patient was put on the routine treatment with some improvement, but on December 10 a recrudescence occurred, the epididymis being enlarged and tender, the inflammation involving the body and tail. The following day he entered the hospital, where local applications of magnesium sulphate were made, and 5 c.c. gonococcic extract injected without reaction. The next day 10 c.c. were given with barely a reaction. On the third day it was noted that the caput epididymidis was soft, the caudal extremity less indurated; there was no pain and no urethral discharge. December 14, the epididymis was found practically normal, with very slight thickening of the head, but no tenderness on pressure and no urethral discharge after seven hours, the urine showing no shreds. The patient was discharged from the hospital and a week later presented himself at the clinic as perfectly well.

The two following cases were treated by Dr. Krotoszyner:

Case 4.—The patient, J. C., had had chronic gonorrhea for two years for which he had lately been treated with injections and sounds. A few days before entering the hospital, following the introduction of a sound, a swelling of the right testicle was observed. November 13, the right epididymis was found swollen to the size of an orange, very tender, no urethral discharge, prostate normal, on palpation containing a soft spot in the center. The prostatic juice contains pus in abundance and a few suspicious diplococci. The temperature ranges between 100 and 101.4. November 15, he was given 5 c.c. gonococcic extract without reaction and on the following day, 10 c.c. with marked reaction. On the 17th the epididymis was less swollen and less tender, the patient feeling generally improved. He received 10 c.c., and the next day further reduction in size and tenderness was noted. Ten c.c. were administered November 18, 19 and 22, when it was recorded that the epididymis was almost normal. On the 23d the local condition was found much improved, the prostatic juice contained a few pus cells but *no gonococci, and 10 c.c. were injected.* November 27, patient was discharged with epididymis normal in size and consistency.

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[2] The composition of emulsion of buchu and sandalwood oil is as follows:

Oil of sandalwood Sodium bicarbonate, of each..........	2 parts
Powdered acacia Powdered tragacanth, of each........	1 *part*
Fluidextract of buchu	4 parts
Alcohol	2 parts
Water	50 parts

[3] The composition of Caspar oil is as follows:

Ichthyol	2 parts
Guaiacol	4 parts
Mercurial ointment, 50 per cent......	8 parts
Lanolin Petrolatum, of each.................	5 parts

CASE 5.—The patient, W. P. S., contracted gonorrhea four weeks before entering. The right testicle began to swell five days before, and the left testicle one day before. On examination, December 18, the right epididymis was found to be the size of a small orange, the left that of a blue plum, both being tender. The patient was given 10 c.c. gonococcic extract, followed by reaction. The next day the left testicle was slightly smaller, the right unchanged. He received 20 c.c. and on the 20th there was marked decrease in size on the right, some on the left side; 30 c.c. were given, and on the 21st the left was still smaller and less indurated, as was also the right; 40 c.c. were given. On the 23d the left testicle was almost normal in size, but still indurated. The right was about the size of a chestnut, both being markedly less painful. The left cord was normal, the right still indurated. Creamy pus containing gonococci was found at the meatus; 50 c.c. were injected, and continued improvement occurred.

Seven patients with gonorrheal rheumatism have received treatment with the extract; all have recovered and as far as is known have remained well. In every instance improvement has set in quite rapidly, and in most of them has been uninterrupted. With a few during the course of the treatment there have been slight exacerbations of the inflammation of very short duration.

In a prostitute at the municipal clinic, gonorrhea was treated in the usual manner from May 10, 1912, to May 21, when gonorrheal rheumatism developed in the right wrist. The patient was given an injection of 5 c.c. of the gonorrheal extract, and by May 31, three negative smears had been made and all pain had disappeared. She has presented herself regularly for examination and up to the present has remained normal.

CASE 6.—W. M. came to the City and County Hospital in my care, March 23, 1912, with gonorrheal rheumatism of the left hip-joint that had lasted since December, 1911, and for which he had been unsuccessfully treated with various methods including injections of ordinary vaccines. Gonococci were found in the urethral discharge and the patient was unable to walk on account of the severe pain. On passive movement of the left lower extremity pain was produced in the hip. March 25 he received an injection of 10 c.c. gonococcic extract; on the following day he stated that he felt a little better. On the 30th he was given 18 c.c. and the following day he had practically no pain, and was able to walk with scarcely any limp. No discharge could be expressed from the urethra. April 4, he was given 20 c.c. and on the 8th, 30 c.c. On the 10th he ran in the ward without the slightest limp. April 15, he received a final dose of 30 c.c. No gonococci could be found in three examinations which were made before his dismissal as cured, April 21, nor were they discovered at an examination six days later.

CASE 7.—H. H., in the care of Dr. Krotoszyner, was attacked with polyarthritis, involving first the right hip, then the left, then the ankles and finally the right wrist ten days after an acute gonorrhea. When examined, Nov. 10, 1912, swelling of both ankles and the right wrist was found together with a profuse spontaneous discharge at the meatus containing gonococci. Both portions of the urine were cloudy. The prostate was somewhat enlarged and tender to touch, showing two distinctly soft spots in each lobe. The prostatic juice showed many pus cells, but no gonococci and very little lecithin. There was general prostration, the patient was very listless and could not sleep on account of pain in the affected joints. The temperature ranged between 99 and 101, pulse between 88 and 100, respiration between 20 and 26. November 19, he was given 5 c.c. gonococcic extract; this was followed by chill and rise of temperature to 102.8. The following day the pains in the affected joints were somewhat less severe, but otherwise the findings were the same. November 20, he received 10 c.c. followed by chill and rise of temperature to 102.6. November 24, it was noted that the affected joints were markedly less painful; not much pain could be elicited on passive movement, and the local condition was also improved. On urination the first glass was cloudy, the second clear, containing many shreds. Nov. 25, 10 c.c. were given followed by chill and rise of temperature to 103.2. November 26, swelling and tenderness in the affected joints were markedly improved: the patient moved both ankle-joints spontaneously and asked permission to get up. November 28, both ankle-joints were somewhat thickened, otherwise normal. Passive movements painless. Patient walked without pain. Right wrist was normal. Both portions of the urine were clear, containing a few shreds; prostatic juice contained a few pus cells. There was no more spontaneous discharge at the meatus, and no gonococci were found. Patient was treated with prostatic massage, steel sounds and instillations of silver nitrate three times weekly. December 2 and 4, 20 c.c. of gonococcic extract were given, not followed by chill, the temperature not rising above 100.4. December 7, patient was given 30 c.c. and the temperature rose only to 100.2. On discharge from the hospital at his own request, December 16, it was noted that the joints were normal and that the patient felt entirely well. No gonococci were found. Both portions of the urine were clear, containing a few shreds; the prostate was normal, the juice showing a few pus cells.

CASE 8.—A. F., in the care of Dr. Krotoszyner, had had gonorrhea six weeks before and still showed spontaneous discharge containing gonococci. Three weeks before he developed arthritis of left knee, ankle and wrist. Nov. 27, 1912, he showed the left knee-joint much swollen and tender and also the ankle and wrist. The temperature was between 98.6 and 100.4. He was given 10 c.c. gonococcic extract, followed by reaction. The next day the affected joints were less tender, and 10 c.c. were given. On the 29th the joints were less swollen and tender; passive movements were possible to a limited extent, but were very painful. November 30, 10 c.c. were given and the following morning the patient felt much better and moved his joints spontaneously. By massage of the prostate, turbid juice was evacuated and prostatic massage every other day with passage of steel sounds and mild silver irrigations were ordered. December 1, he received 15 c.c. gonococcic extract not followed by reaction and on the next day he was able to walk down the stairs to receive his local treatment. December 3, the joints were easily movable and painless on passive movement; urethral discharge was disappearing; 15 c.c. were injected. December 5, joints were freely movable, and not tender to touch or on movement. Both portions of the urine were clear, containing a few shreds; prostatic juice showed less pus, no gonococci, and a few lecithin bodies. December 11, 30 c.c. gonococcic extract were not followed by reaction. December 12, patient felt well, the affected joints were slightly puffed, but otherwise normal, and he was discharged cured.

In three cases of typhoid an extract prepared from the typhoid bacilli was injected with apparently good results. In all of them the intensity of the Widal reaction rapidly increased; in one from 1 in 100 to 1 in 180, in another from 1 in 250 to 1 in 400, and in the third from 1 in 50 to 1 in 200.

In two cases of articular rheumatism injections were made with an extract prepared from the culture of an endocarditis streptococcus, and in both improvement followed.

Investigations are being made with extracts of the streptococcus, the colon bacillus, the *Bacillus pyocyaneus*, *B. tuberculosis*, and other microorganisms that present themselves in the various clinical departments of the hospital.

It is to be hoped that the principle of the production of antibodies by the employment of digestive extracts of the various microorganisms will prove to be of general application.

1392 Geary Street.

A CASE OF CONGENITAL FAMILIAL DEXTROCARDIA

WITH ELECTROCARDIOGRAPHIC CURVES

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Reports of cases of congenital dextrocardia as a single anomaly or as part of a situs inversus viscerum have appeared in the literature from time to time. The advances in roentgenography and orthodiascopy and the study of *electrocardiography have given added interest* to this rare group of congenital malpositions. The two cases here reported occurred in a brother and sister. I have not been able to find a report of more than one case of this anomaly in any one family. The sister died four years ago; the brother is alive.

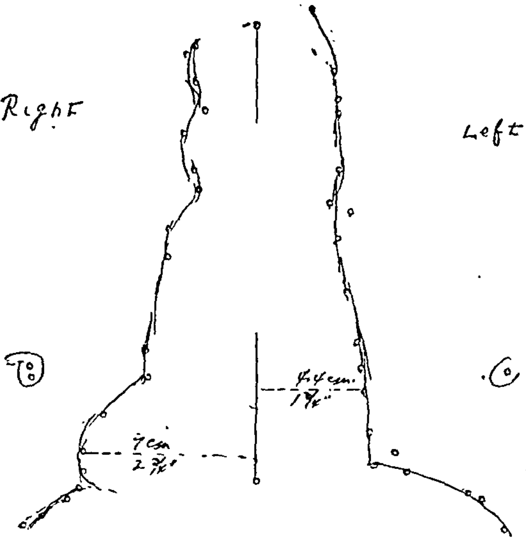

Fig. 1.—Orthodiascopic tracing of patient with dextrocardia.

The following is a summary of the cardiac history of the family:

The father, aged 60, is well; his heart is in normal position. The mother died of "chronic nephritis and uremia; the heart was hypertrophied and dilated and was on the left side."[1] Of the children, the oldest, a female, died of tuberculosis four years ago. The hospital report reads, "heart situated on the right side, liver on the left."[2] Of the three living children, one a boy 18 years old, has a normal heart; the other, A.H., has dextrocardia. The youngest, a girl aged 17, gives a history of chorea and articular rheumatism since her sixth year. Her heart is very much enlarged to the right and left. She has had several attacks of decompensation. She suffers from mitral regurgitation and there is some evidence of a pulmonary lesion. Her electrocardiogram shows right ventricular hypertrophy.

A.H., aged 26, had noticed since childhood that his heart beat on the right side. As a child he had pertussis followed by left-sided empyema for which he was operated on. He has been coughing since his attack of pertussis. His occupation entails hard work and constant climbing of stairs. Examination of the lungs shows signs of chronic bronchitis. The apex of the heart is situated on the right side in the fifth intercostal space. Taking into account its transposed position, the cardiac area is normal to percussion. The outline is best seen in the *orthodiascopic tracing* (Fig. 1). The patient suffers from no circulatory disturbances; his occasional dyspnea is caused by bronchitis. The liver is situated on the left side; the spleen on the right.

A brief description of the derivation and interpretation of electrocardiographic curves will elucidate the diagrams. Every muscle contraction produces a minute amount of *electromotive force sufficient to* cause deviation in a sensitive galvanometer. In the case of the contracting heart the action current is drawn off by means of non-polarizable electrodes placed on both forearms and on the left leg. Currents passing in definite directions between these electrodes constitute what are known as leads; that from right arm to left arm constitutes Lead 1, from right arm to left leg, Lead 2, from left arm to left leg, Lead 3. The electrodes are connected with wires in circuit with a galvanometric string, and thus the electricity produced by the cardiac muscular contraction passes through a silvered quartz or platinum string of almost cobweb thinness. The string lies in the field of a powerful electromagnet through the poles of which a microscope is placed. In this manner the microscopic deviations of the galvanometric string are magnified, usually about 600 diameters, and the magnified deviations are projected and photographed on a moving photographic film. The picture so obtained constitutes the electrocardiogram. For every normal beat the electrocardiogram consists of certain summits and depressions, arbitrarily called P, Q, R, S, T; these sometimes vary to a considerable extent in the different leads. The main summits are P, R and T, the P wave corresponding to the auricular and the R and T to the ventricular beat.

The electrocardiographic curves in this case (Fig. 2) correspond to those of congenital dextrocardia. A few cases have already been published (Nicolai,[3] Hoke,[4] Owen,[5] Lewis[6]). Comparison with the normal electrocardiogram from Lead 1 (Fig. 5) shows that in dextrocardia the positions of the summits P, R, T is exactly the inverse of the normal; they are, so to speak, upside down. This reversal of the peaks takes place in the first lead alone because it is the "symmetric" lead.[7] Such exact reversal of P, R, T is found only in congenital cardiac transposition, therefore this method may be used to differentiate between the latter and those displacements due to pleuritic effusions, adhesions, tumors, etc. Leads

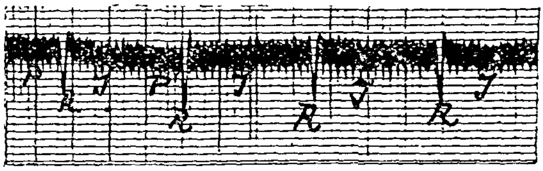

Fig. 2.—Electrocardiogram in congenital dextrocardia; Lead 1.

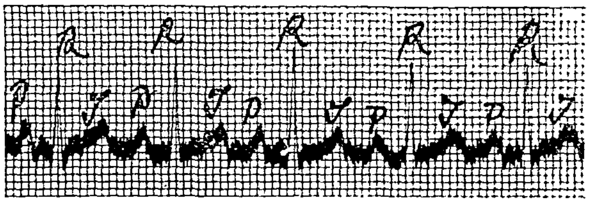

Fig. 3.—Electrocardiogram in congenital dextrocardia; Lead 2.

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[1] Report from Dr. C. Irving Fisher, superintendent, Presbyterian Hospital, New York City.

[2] Report from Dr. William Mabon, superintendent, Manhattan State Hospital.

[3] Nicolai: Berliner klin. Wchnschr., 1911, xlviii, 51.

[4] Hoke: München. med. Wchnschr., 1911, lviii, 802.

[5] Owen: Heart, iii, No. 1, p. 113.

[6] Lewis: Brit. Med. Jour., June 22, 1912.

[7] Lewis: Brit. Med. Jour., June 22, 1912, p. 1423.

2 and 3 (Figs. 3 and 4) also show changes typical of dextrocardia; that is, all the summits are higher in the third lead than in the second. The P summits in the first lead in this case are very small; this sometimes happens *in normal electrocardiograms in this lead.*

SUMMARY

Two cases of dextrocardia with situs inversus viscerum in one family are herewith reported. Another child in the same family has very marked cardiac enlargement following endocarditis.

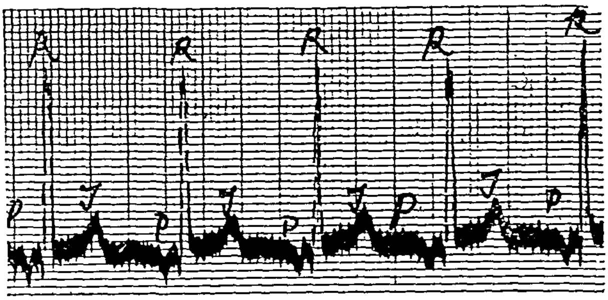

Fig. 4.—Electrocardiogram in congenital dextrocardia; Lead 3.

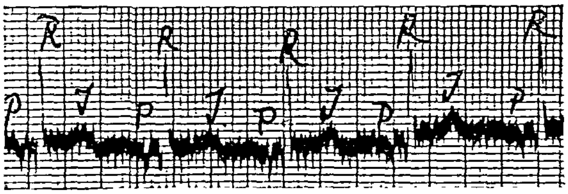

Fig. 5.—Normal electrocardiogram; Lead 1.

I am indebted to Dr. H. B. Williams of the department of physiology of the Columbia University for his kindness in taking the electrocardiograms in this case.

1275 Madison Avenue.

Pulmonary Tuberculosis in the Aged.—Breton and Bruyant (*Echo Médical du Nord*, Sept. 29, 1912) draw some interesting conclusions from their examination of 400 women in an old people's home during the last six years. Active pulmonary tuberculosis was noted during life in 12 per cent. of the patients, and in 6 per cent. in the few necropsies permitted. In the less active cases, a history of some manifestations of tuberculosis in youth was the rule. These had subsided in time and seemed to have conferred an immunity which lasted for half a century or more, and when the patients finally contracted pulmonary tuberculosis they bore it without much disturbance. On the other hand, those free from a previous history of tuberculosis went rapidly into a decline when they became infected with pulmonary tuberculosis. The experiences related seem to teach that the best way to avoid phthisis is for the persons who have once been tuberculous to become reinfected at long intervals, avoiding cumulative action by the length of the intervals. Another point brought out by the examinations was the small number and infrequency of tubercle bacilli in the sputum of the elderly. The aged tuberculous seem able to expel the greater portion of their tubercle bacilli by the intestines; the sputum only exceptionally contains them. The tuberculin tests are of greater significance in diagnosis and prognosis in the aged than in adults generally; pulmonary tuberculosis in the aged is frequently so modified by cardiovascular or renal disturbances that it is difficult to diagnose. This difficulty is enhanced by the more or less complete absence of tubercle bacilli from the sputum.

ONE HUNDRED CASES OF ACUTE ARTHRITIS AMONG NEGRO LABORERS ON THE PANAMA CANAL *

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The diagnosis of acute articular rheumatism is, to my mind, as frequently misapplied in acute arthritis as that of influenza in pulmonary affections and that of malaria in obscure febrile conditions. Under acute articular rheumatism should be included, of course, only those cases of acute arthritis in which there is a rapid invasion, similar to that in an infectious disease, with high temperature, hot, swollen, tender joint or joints, acid sweats, marked leukocytosis with polynuclear increase, and a marked tendency to endocarditis, and in which the administration of salicylates proves them to be a specific remedy. It is unfortunate that the term "rheumatism" has ever been used to designate other joint affections.

Some of the most noted authorities in tropical medicine declare that acute articular rheumatism and scarlatina are both practically non-existent among natives in the tropics. No one will deny that scarlatina occurs in Panama in imported cases only, but questions would probably be raised as to the absence of acute articular rheumatism. To gain information about the types of arthritides encountered among our laborers and about the result of treatment, at the suggestion of Dr. W. E. Deeks, a study was begun about a year ago of one hundred consecutive acute cases.

Before going into detail, it must be stated that traumatic arthritis, arthritis occurring during the course of pyogenic infections and arthritis frequently seen in disseminated tuberculosis have been excluded. The cases analyzed were admitted during the past twelve months to Section 1, the adult male negro medical wards of Ancon Hospital. It is highly improbable that, with one exception, any of these men have ever lived anywhere else than in tropical regions. The majority of them came to the Isthmus from the West Indian islands (thirty from Barbados and twenty-four from Jamaica), and most of the remaining ones from the smaller islands. A few were Central or South Americans. Only one was born in the United States of America.

The final diagnosis made on discharge of these one hundred patients in order of type frequency and read either as number or percentage was:

	Cases
Syphilitic arthritis	63
Gonorrheal arthritis	28
Undetermined arthritis	6
Dysenteric arthritis	2
Tuberculous arthritis	1
	100

The fact that syphilitic arthritis should constitute 63 per cent. of the total arthritis morbidity among a class of laborers is undoubtedly astonishing to one not familiar with our daily work on the Isthmus. We ourselves would hardly have the temerity to make such a statement here, on clinical observation alone, were it not corroborated by a series of excellently executed Wassermann tests, followed by the old, reliable therapeutic test of mercury and iodids, occasionally supplemented by the use of the latest achievement in syphilis therapy — salvarsan. Dr. L. B. Bates, bacteriologist of the Board of Health Laboratory, has been as much interested in these cases as the clinicians and has made a Wassermann test in each of these one hundred cases with a positive result of 59 per cent. Sixty-three of these one hundred cases were diagnosed as syphilitic; in 93.6 per cent. of these sixty-three cases the Wassermann test was positive. Objection may here be raised as to the validity of the Wassermann test in as highly malarial a region as ours, since it has been asserted that this test is frequently positive in malaria. The fallacy of this assertion has been amply proved in a paper by Dr. Bates,[1] read at the annual meeting of the American Medical Association last June. To this paper I must refer those seeking information as to the technic employed. Clinically, our experience with several thousand Wassermann tests performed by Dr. Bates prompts me to say that the result has seldom been positive in cases in which no physical evidence of syphilis could be found. A few cases of frambesia are, of course, excluded here. Another objection to the acceptance of our analysis would grant the syphilitic infection, but question its relation to the arthritis. The answer to this objection is (not to mention the result of therapy) that it has been possible to diagnose the majority of the syphilitic arthritides as such before the Wassermann test was made.

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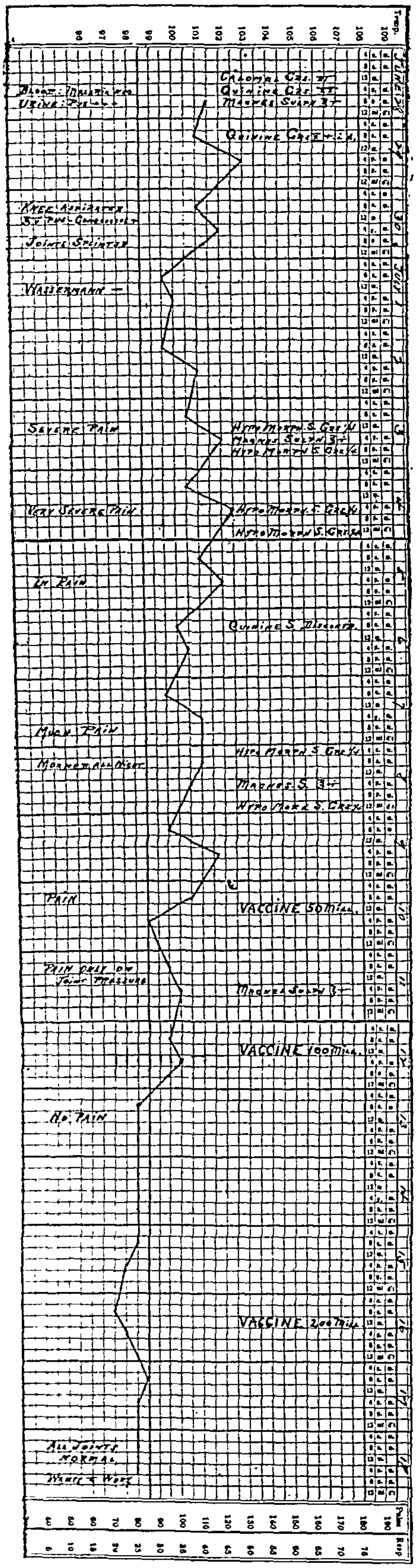
* Read before the Isthmian Medical Society, Jan. 18, 1913.



Hospital ward chart of a case of acute gonorrheal arthritis (right and left knees, right ankle, right thumb, left shoulder), showing the specific effect of vaccine therapy.

DIAGNOSES OF SYPHILITIC ARTHRITIS

Since the days of the Wassermann test, clinicians have realized more fully than ever before that a single lesion of syphilis not infrequently exists without any concomitant signs of the disease. A patient may never have had a macroscopic chancre and so can give no history and show no scar of the disease; or the primary sore was insignificant and healed without leaving evidence. And furthermore, the secondaries may have appeared only as an erythema, unrecognizable in a negro, and often overlooked or misinterpreted in a white patient. So it comes that, while most of our cases of syphilitic arthritis have shown other lesions of the disease, some have presented only joint involvement. The average patient is admitted to the ward with a multiple, rather subacute arthritis. A genital scar is frequently found. As a rule, the patient has no fever and the joint pain is severe only on pressure. The joints usually involved are the knees, elbows, sternoclavicular, ankle and wrist. The finger- and toe-joints are seldom affected. There is moderate swelling but marked effusion is rare. The involvement of the periarticular bursae and of the tendon sheaths is very rare. In other words, the inflammation is limited to the joint, the latter being simply boggy and tender to pressure. Only four of our sixty-three cases gave evidence of secondary skin lesions. Frequently the lymphatic glandular enlargement and induration still remained. The most reliable concomitant sign of syphilitic arthritis was acute osteoperiostitis of the sternum and of the long bones, especially of the lateral surface of the tibia. The patient was usually very sensitive to even moderate pressure when this existed. Leukocytosis was seldom present and when it did occur it was not marked.

The cases, with few exceptions, probably belonged in the late secondary stage. A few cases, which resisted treatment for several months and which were followed by partial fibrous ankylosis, were undoubtedly of the tertiary, gummatous variety. One patient, the only one readmitted in the total series, came to the hospital first with acute syphilitic arthritis. The Wassermann test was positive. As soon as all pain had disappeared under treatment, that is in fourteen days, the patient requested discharge. About six months later he was again admitted with a typical generalized papulopustular syphilid but normal joints. The Wassermann test was still positive. When treatment was resumed, the rash disappeared and the patient again considered himself cured, and asked for discharge, which was granted under protest. Several weeks ago he was readmitted for the third time, suffering with the second attack of syphilitic arthritis, and showing only the scars of the previous pustular rash. The Wassermann test was positive for the third time. Two weeks' treatment of mercury and iodids was so effective that he refused the proposed salvarsan injection. He is again at work and probably thinks himself entirely well. This case, in which acute arthritis preceded and followed a papulopustular syphilid, seems to indicate that most of our similar syphilitic arthritides are late secondaries, rather than gummatous involvement of the joints. The Wassermann test, as previously stated, being positive in 93.6 per cent. of the cases, shows a positive result attained only in secondary syphilis. Then again, the rapid recovery under appropriate treatment, without impairment of function in almost all cases, points to this conclusion.

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[1] Bates, L. B.: The Wassermann Test in the Tropics, Arch. Int. Med., November, 1912, p. 470.

The question why syphilitic arthritis is so common among our negro laborers is probably as difficult to answer as the one why the parasyphilids, tabes and paresis are so extremely rare. The theory taught by our chief of clinic, Dr. W. E. Deeks; that a chronic infection will often attack those organs or tissues of the human body that are subject to the greatest physiologic activity or injury in the particular patient's daily mode of living, seems to receive noted support in this instance. We are informed that in the white patient wards of this hospital syphilitic arthritis is very much less common, proportionately, than among our negro patients.

TREATMENT OF SYPHILITIC ARTHRITIS

To appreciate how we are handicapped in treating this or any other disease thoroughly, one must know the ignorance of our negroes and their consequent lack of cooperation. The negro, with few exceptions, considers himself sick only when in pain or disfigured. As soon as the papulopustular syphilid has disappeared, or the affected joints are relieved of their pain and swelling, he demands his discharge from the hospital, little believing, and caring less, that sooner or later he may be crippled permanently as the result. Our aim, therefore, must be to give the maximum amount of specific treatment in the short time our patient sees fit to remain in our care. The intravenous injection of salvarsan has done much to help us in this difficulty, but it has its drawbacks in the fact that the patient refuses operation, as he calls it. The intramuscular injection of mercury has the same disadvantage.

Our usual treatment, therefore, in acute syphilitic arthritis is rest in bed with splinting of the affected joints, and the administration of mercury in the form of protiodid by mouth, and of blue ointment by inunction, combined with potassium iodid treatment. Dental decay and pyorrhea alveolaris have made such inroads among our negroes that special care has to be exercised in giving mercury. Experience has taught us that an extemporaneous mouth-wash composed of 1 dram of tincture of iodin to 1 pint of water, used frequently with digital massage of the gums, is as good as anything in temporarily checking suppuration and warding off salivation. In giving protiodid we begin with 1/6 grain three times daily, increasing the dose by 1/6 grain daily until the total dose per day is 2 grains, that is on the tenth day. This maximum dose is then continued without further increase. While the protiodid is given after meals, the potassium iodid is given before, in essence of pepsin as a vehicle. It is prescribed three times daily, beginning with 5 grains and increasing 5 grains per dose until 150 grains are given daily. This maximum dose is reached on the fourth day, and continued. Those who know our negro will appreciate that the blue ointment given in one dram doses daily for inunction is a treatment after his own heart. No white man ever "anointed" himself more religiously than these negro patients, who have a profound regard for ointments as remedial agents.

This outline of mixed treatment may seem very severe, but under the circumstances it probably is justified by the results obtained. The urine is, of course, always watched for evidence of mercurial albuminuria. Usually, in about a week, the arthritic pains are gone, and the swelling is scarcely noticeable. If during this treatment symptoms of kidney irritation, mercurialism or iodism arise, the treatment is of course temporarily suspended. Usually at the end of ten days one begins to notice the fetid breath, and the patient will then complain of sore teeth when shutting his jaws tightly. Iodism usually shows itself by acute coryza, a rise in temperature, swelling of the parotids, salivation and a puffiness of the eyelids. Acute indigestion and diarrhea are seldom encountered. At the end of two weeks, all syphilitic joints without organic changes are free from tenderness, swelling and restricted motion. An attempt is then made, usually without avail, to make the patient realize the necessity of thorough eradication of the disease. Almost invariably this is taken as a joke, the patient believing himself well, and the demanded discharge is given. How effective an intensive mixed treatment, even though very short, may be is shown by the fact that, during the year, the only case of the sixty-three readmitted was the one previously mentioned. The total number of days in the hospital of uncomplicated syphilitic arthritis cases was 1,190, an average of 18.8 days per man.

DIAGNOSIS OF GONORRHEAL ARTHRITIS

In the typical gonorrheal joint we have a picture quite different from that seen in the well-developed syphilitic joint. Here the temperature is generally elevated to 101 and 102 F. The entire aspect is one of a more acute infection. Pain and tenderness are much more marked even without pressure. In the worst cases the pain is excruciating, both day and night. While in the syphilitic joint the effusion is not common nor extensive, the opposite is true in gonorrheal arthritis. The joints are frequently markedly distended with fluid, which, on aspiration, is rather viscid, greenish yellow in color, and microscopically loaded with pus cells. Occasionally the gonococcus is found, though it may be necessary to hunt for some time to demonstrate its presence. An extension of the inflammation and effusion to the periarticular bursae and tendon sheaths is as common in gonorrheal as it is rare in syphilitic joints. There seems to be no difference in the tendency of these two diseases to affect multiple joints, but involvement of small joints, especially of the fingers and toes, speaks in favor of gonorrheal arthritis. Osteoperiostitis of the sternum and of the shaft of the long bones has been observed only in syphilis. The Wassermann test in uncomplicated gonorrheal arthritis has always been negative. It is to be hoped that the more recently developed complement-fixation test for gonorrhea will be of as great value in the diagnosis of these cases as the Wassermann test is in the syphilitic variety. The blood-picture of gonorrheal arthritis does not differ enough from that of the syphilitic affection to be of any value in differential diagnosis. Very severe cases show at times a marked polynuclear leukocytosis, but the average case shows slight, if any, increase in leukocytes. The tendency to improve rapidly or get well, even without treatment, is much more characteristic of gonorrheal than of syphilitic arthritis.

This may be explained by the theory that in the former we have a sudden metastasis from a chronic walled-off focus of a disease not constitutional. The action of the endotoxin of the gonococcus, being very irritating, causes a severe reaction and a rapid formation of antibodies, which soon conquer the invading organisms. In the other, the syphilitic, the disease is constitutional and antibodies are already present throughout the body. For some reason or other the natural defense of the body, the antibodies, becomes weak or otherwise inefficient. This is naturally followed by new disease manifestations of a more or less acute character. It may then be assumed that a body debilitated by a losing fight against an ever-present toxin will require more time to gain the upper hand than one making its first stand against a sudden invasion. This may also explain why syphilitic arthritis, with its permanently present, though variable, antibody, is usually subacute from the beginning, while gonorrheal arthritis, with a primarily absent antibody, is frequently very acute.

It is probably true that in gonorrheal arthritis the chronic focus of the disease, whence the metastasis occurred, can always be located with proper skill and facilities. The posterior urethra, the prostate vesicles, and the epididymis will usually be the place to look for it. Pus corpuscles and shreds in the urine of a male patient are always very suggestive. Massage of the prostate and vesicles with expression of pus, or urethrascopic examination will often show the site of the chronic infection.

TREATMENT OF GONORRHEAL ARTHRITIS

In the thorough treatment of gonorrheal arthritis of our negro patients, we are placed at a twofold disadvantage. As far as the patients' inability to understand the need of an eradication of the disease focus is concerned, conditions are, of course, the same as in syphilis. We are personally handicapped, moreover, by the fact that in order to eradicate a gonorrheal focus, the cause of joint metastasis, special skill and training with ample time and facilities are necessary. It is a task for the better class of genito-urinary specialists. In a commercial undertaking, like the building of this canal, the employer cannot be expected to furnish such treatment in all cases, if only for the reason that the patient himself would rebel against the loss of time and pay. Our main aim then must be to refit these men in as short a time as possible for their labors on the canal. We have found that nothing gives better results in these cases than to place the patient in bed, administer a urinary antiseptic, usually hexamethylenamin, aspirate the pus from the most severely involved joints, splint and bandage them, and give an eight-strain gonococcus stock vaccine hypodermatically (not intramuscularly).

Three years ago the results of vaccine therapy in metastatic gonorrhea were very doubtful, owing to the small dosage then advised by authorities. For the past two years we have been giving four injections of fifty million, one hundred million, two hundred million and four hundred million respectively, with intervals of one day between doses. While in some cases of gonorrheal arthritis a sufficient number of antibodies will develop to permit recovery without vaccine treatment, in most cases the patient will suffer far less pain and get well much more rapidly with the treatment. Not infrequently the terrific pain, which can be dulled only by opiates, is abolished in six hours following the first injection of vaccine. But the most brilliant results obtained with vaccine are in those very acute cases in which organic joint changes have not taken place as yet, and in which sufficient antibody cannot be manufactured. The suffering in these cases can be compared only with renal or gall-stone colic.

An example of a case of this kind occurred last spring, when, through some oversight, our vaccine supply was exhausted and a new supply not furnished. As can be seen from the hospital chart, this patient had a temperature of 100 to 103 F. for twelve days after admission, in spite of all treatment. Morphin sulphate had to be given frequently in ¼ grain doses by hypodermic to dull the severe pain as much as possible. Intracellular gonococci were found in the pus aspirated from one knee-joint on the third day. The Wassermann test was negative on the fourth day. On the thirteenth day following admission, a supply of stock vaccine was received and fifty million killed bacteria were given immediately. The result was extremely gratifying. That night the pain ceased and the temperature fell to normal for the first time since the patient's admission to the ward. The temperature rose again to 100 F. the next day, but the pain did not return. On the third day of vaccine treatment a second dose of one hundred million bacteria was given, with the result that the next morning the temperature was normal and remained so. The effusion absorbed rapidly. On the ninth day of treatment, after having received a total of three hundred and fifty million killed bacteria in three doses, the patient said he felt perfectly well and requested to be sent back to work.

Keyes, Jr., in his admirable text-book on genito-urinary diseases, 1911 edition, states that 75 per cent. of gonorrheal arthritides should be markedly improved by vaccine treatment. This same author also speaks of the brilliant results sometimes obtained in gonococcus septicemia. He warns his readers not to expect the impossible of vaccine therapy in cases in which organic bone and tendon changes have already taken place. Fortunately for our patients and for us, we seldom encounter gonorrheal osteo-arthritis or septicemia. A word of caution may not be amiss here, calling attention to the fact that some vaccine on the market is poorly put up and probably carelessly prepared. Only the best can be good enough in specific medication.

All of the cases of gonorrheal metastasis in this series recovered without impairment of function. The total number of days in the hospital of uncomplicated cases was 672; the average stay per man was twenty-four days. That the treatment just outlined is efficient temporarily is shown by the fact that during the year there were no readmissions. It is possible that the Bier hyperemic treatment used in conjunction with vaccine would give still better results. The hypodermic administration of the patient's own joint fluid, sterilized, is another form of treatment that may be worth trial, as it is possible that the tendency to recover in acute gonorrheal arthritis may be due to an antitoxin or antibody to be found in the joint effusion.

UNDETERMINED CASES

In this group were classed six cases of undiagnosed arthritis. The Wassermann test was negative in all of them. Fever was present in only two. Several recovered rapidly without treatment and the remainder recovered under diverse modes of treatment. Very mild arthritis, in which syphilis can be excluded and in which spontaneous recovery rapidly ensues, will occasionally have to be put in this group. It is probable that some of the milder cases recorded in the first two groups really belong here. We have not been able to detect a gonorrheal arthritis in a syphilitic patient. It is only reasonable to assume that this does occur, but it is also readily seen that a mild gonorrheal arthritis, in a syphilitic with a positive Wassermann test, might improve rapidly during the antisyphilitic treatment, and so be classed as of syphilitic etiology. As in all other diseases having a common symptom-complex, the borderland, complicated and mixed cases are the most difficult to diagnose. The complement-fixation test for gonorrhea in conjunction with the same test for syphilis may point out some of these complicated or mixed cases so that they can be correctly and fully diagnosed and receive the benefit of combined treatments.

DYSENTERIC CASES

Occasionally during the course of or following an attack of dysentery, presumably of bacillary origin, we see a sudden rise of temperature with an effusion into the bursae of the larger joints, accompanied by only slight pain. The patient recovers in a short time with nothing but symptomatic treatment. A knee fluid culture, kindly made by Dr. L. B. Bates in one of these cases several years ago, was sterile.

TUBERCULOUS CASES

The only case of primary tuberculous arthritis in this series was of the usual knee-joint variety, monarticular. The Wassermann test was negative. The diagnosis was arrived at mainly by exclusion, the presence of continued fever, localized tenderness and exostoses about the epiphysis and head of the bone, and an *x*-ray plate kindly made by Dr. T. Earhart of this hospital. The *x*-ray is of the greatest value both in diagnosis and prognosis in all cases of arthritis showing bone destruction. An arrest of the process was obtained in this case by splinting and general rest, in conjunction with the usual dietetic and hygienic treatment of tuberculosis. There was partial ankylosis when the patient was discharged.

SUMMARY

Ninety-one per cent. of the acute arthritides of this series admitted to the male negro medical wards during the past year were caused by venereal disease. Sixty-three per cent. were of syphilitic etiology, the Wassermann test being positive in 93.6 per cent. of these cases. An intensive mixed treatment, carried to the point of maximum tolerance, has enabled these men to return to work temporarily in an average of 18.8 days.

Twenty-eight per cent. were of gonorrheal origin. Vaccine treatment gave very good, sometimes brilliant, results in the great majority of cases. Unfavorable results due to the treatment were not noticed. The average number of days under treatment per man was twenty-four.

All other types of arthritis were in such minority that they are practically negligible.

Acute articular rheumatism was not encountered, and acute or chronic endocarditis was not recognized in any of the total one hundred cases.

In conclusion, I wish to extend my thanks to the following gentlemen for permission to publish: Col. W. C. Gorgas, Medical Corps, U. S. A., chief sanitary officer; Col. Charles F. Mason, Medical Corps, U. S. A., superintendent of Ancon Hospital, and to Dr. W. E. Deeks, chief of the medical clinic, on whose service these cases occurred.

The Milk of Indian Buffaloes.—According to Consul Norton, at Bombay, India, investigations carried on during a period of fifteen months on a number of buffalo cows belonging to a dairy at Poona, show that the Indian buffalo surpasses the best breeds of milk cows in the production of butter fat, 7 to 8 per cent. being common, and 10 per cent. having been found. The milk is white, and the butter usually white. The percentage of proteins in buffalo milk is distinctly greater than in cow's milk. Milk-sugar and minerals correspond closely to those of cow's milk.—*Daily Consular Reports.*

RABIES

A PATHOGNOMONIC SIGN GENERALLY OVERLOOKED

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Aside from the pioneer communications on hydrophobia, very little has been written on the subject, and that little is extremely vague and indefinite. Having an opportunity to observe a series of over two hundred rabbits inoculated with rabies (for use in the El Paso Pasteur Institute), as well as a number of animals infected with "street rabies," I was impressed with the uniformity of the development of the symptoms, and particularly of a left hemiplegia starting in the leg (simulating Landry's paralysis) of which I could find only vague references in the literature.

The first symptom of the disease in the rabbits was a general nervousness; the entire body seemed to be trembling and, if the animal was startled by the sudden clapping of hands, it would stagger and apparently have great trouble in maintaining its balance. Soon a limping of the left hind leg was noticed and, if the rabbit was taken from the cage and made to hurry across the floor, that leg gave way entirely. In a short time a weakness in the corresponding front leg developed, then in the neck, as in acute ascending paralysis. Hence when the animal attempted to walk it would move around the cage clockwise, supporting its weak left side against the wall. A few of the rabbits had convulsions, and when that happened they rolled over and over from right to left. If the rabbits are not molested they will remain crouching in a corner of the cage, and then the first apparent weakness is the left torticollis; but if the animal is made to move, the paralysis will be found to be greatest in the left hind leg. The rabbits lie fully extended on the left side as the paralysis progresses, apparently dead, the only sign of life for several hours before the end being an occasional movement of the muscles about the nose and eyes.

In man after the expiration of the incubative period, the patient complains of loss of appetite and headache; he becomes depressed, ill-tempered, apprehensive and excitable; then the breathing becomes difficult and labored, accompanied by spasmodic contractions of pharynx and larynx.

It was at this stage of the disease that I saw J. M., an albino Mexican, who had been bitten about the middle of September by his pet dog (which died the following day in a convulsion). He was sitting up in bed, as he could not breathe in a recumbent position. The stridulous breathing sounded like the bark of a dog, and the frequent shaking of his head emphasized the resemblance and caused the neighbors to make the correct diagnosis. He attempted to convince them that they were wrong by frequently demonstrating how easily he could drink water, but after one or two swallows he always became strangled; salivation was marked. He had a strong grip with his right hand, but that of his left was very weak. On attempting to walk he seemed to have perfect control over his right leg, but his left gave way under him and he had to be supported on that side. As he moved across the room his entire left side was weak, his head almost lying on his left shoulder, which in turn drooped. The following day hallucinations appeared, which caused the patient great anxiety and excitability. A little later paroxysms occurred which resembled maniacal attacks with delirium. They were of short duration, but large doses of morphin, chloral and potassium bromid had no effect in controlling them. Paralysis became general, and death took place suddenly on the fourth day, during a paroxysm, from asphyxia.

On October 5 a neighbor's dog, which had been bitten by that of the Mexican boy, became restless and ill tempered. He bit the grocery boy (on the hand) and a young hog (on the nose) before he was frightened away by the owner. Three days later it was noticed that something was wrong with the dog's left hind leg. When he wanted to lie down he would turn round and round several times from right to left and then when he allowed his left thigh to touch the floor he would at once bound up with a sharp cry, holding the leg in the air and whining as if in pain. The following day the leg was completely paralyzed, and there was a weakness of the corresponding front leg and neck. The development of the paralysis, preceded by a left hemiplegia, and followed by death, was the same as seen in the rabbits. (The brain was sent to the local Pasteur institute and they reported the presence of Negri bodies.) The groceryman was immediately started on Pasteur treatment, and the bitten hog isolated. On November 12 the hog became restless and began to limp with the left hind leg; it was unable to drink, though it made frequent attempts and would put its head to the level of its eyes in a bucket of water; salivation became marked, and progressive paralysis and death, as seen in the rabbits, followed the next day.

An interesting point here is the fact that a "mad" fox-terrier at almost precisely the same time bit a man and a hog. The man was given Pasteur treatment and is well, while the hog received no treatment and died of rabies.

SUMMARY

1. These cases are reported to call attention to the characteristic development of the paralysis of rabies as noted in a series of animals, including man, dog, hog, guinea-pigs and rabbits.
2. The initial site of paralysis was the "left hind leg," and this in a short time developed into a left hemiplegia, the paralysis eventually becoming general.
3. In an animal that has suddenly become extremely nervous and irritable, the development of a weakness in the left hind leg, without any apparent reason, is sufficient to warrant a tentative diagnosis of rabies.

THE PREPARATION AND EMPLOYMENT, IN A SERIES OF CASES, OF A POTENT POLYVALENT ANTISTAPHYLOCOCCIC SERUM *

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Impressed by the questionable propriety of the employment of active immunity with bacterins in the acute stage of an infection, whether localized or generalized, as in furuncle or septicemia — conditions in which, it seems logical to infer, the human organism is already sufficiently stimulated by viable bacteria to the production of specific antibodies, if not completely overwhelmed as in the latter instance, rendering the employment of an inactivated specific antigen inadvisable if not positively harmful — I attempted in September, 1909, the preparation of an antiserum which I hoped might prove useful in antagonizing the diverse lesions of that commonest of all pyogenic cocci, the *Micrococcus pyogenes aureus*.

Various attempts have been made on horses and other animals to produce a potent antistaphylococcic serum, but they have almost invariably resulted unsuccessfully, although Doyen and Paltchikowsky assert that they have succeeded partially. Emery states that "it is possible by special methods to produce a serum which has a slight bactericidal effect, but normal human serum or the serum of a patient who has been submitted to a course of antistaphylococcic vaccination is quite powerless in this respect." Schorer asserts that "the value of the serum . . . is inconsiderable, and its injection in the treatment of staphylococcus infections is seldom or never warranted." Such noted authorities as Ehrlich, Bordet and Citron omit even to mention, in their works on immunity, the existence of antistaphylococcic serum. It is therefore with considerable trepidation that I venture to assert the successful preparation of a potent polyvalent antistaphylococcic serum.

The experiments of Neisser and Wechsberg show the production of a typical hemolysin by the *Micrococcus albus* and *M. aureus* in culture growth. Following the subsequent discovery by these two serologists that human and certain other animal serums normally contain antistaphylolysin, although less than is the case with immune serums, Bruck, Michaelis and Schulze have attempted to employ the presence of antistaphylolysin in blood-serum as evidence of the existence of staphylococcic infection.

Furthermore, agglutination tests have shown that the staphylococci in pus may be agglutinated by the serum of the patient, while those from the air, skin, etc., are not so influenced, thus demonstrating, as is the case with many other bacteria, the variability or diversity of the strains of the bacterium in question. I feel convinced that one of the most important factors conducive to the successful production of our serum has been the utilization of staphylococcus cultures from many sources, thereby effecting a polyvalency of unmistakable potency.

PREPARATION OF THE SERUM

Eighteen strains of the *Micrococcus aureus* were isotated in pure culture from as many various sources, as follows:

Furunculosis	8
Carbunculosis	4
Subcutaneous abscesses (scalp)	3
Thoracic empyema	1
Axillary abscess	1
Septicemia (osteomyelitic)	1
Total	18

Each of these strains was cultured on agar-agar tube-slants at 37 C. (98.6 F.) for twenty-four hours, and the resultant growths washed off by the addition of 5 c.c. of bouillon to each of the cultures. The combined 90 c.c. were then shaken mechanically for fifteen minutes; 0.25 c.c. of this bacterial suspension was then flooded on the agar-agar surface of each of two Petri dishes, presenting, respectively, an area of 12½ square inches. The growths from the two Petri-dish cultures, after an incubation at 37 C. for twenty-four hours, were washed off in 30 c.c. of sterile 0.85 per cent. sodium chlorid solution. This bacterial suspension was standardized so that each cubic centimeter was estimated to contain 32,400,000,000 cocci and then sterilized by submersion in a water-bath at 60 C. (140 F.) for one hour.

From the same polyvalent staphylococcic suspension, agar-agar tube-slant cultures were made preparatory to the determination of the opsonic indices[1]— the controls by which the degree of immunity of the animal to be inoculated was governed.

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* From the William Pepper Laboratory of Clinical Medicine, University of Pennsylvania. Read before the Philadelphia Pathological Society, Dec. 12, 1912.

[1] In all determinations of the opsonic index of the animal, washed human leukocytes were employed for the purpose of phagocytosis.

The animal selected for the purpose of immunization was a full-grown, 3-year old, vigorous, uncastrated ram weighing 165 pounds. His opsonic index, Sept. 9, 1909, prior to inoculation, for the polyvalent staphylococcic culture was determined to be 0.12. The curve of the indices during the course of inoculations can best be studied by reference to the accompanying chart. On the same date the ram received intraperitoneally the initial dose of 972,000,000,000 dead staphylococci. September 15, the ram's opsonic index was found to be 0.51, and he was inoculated with the growth from three Petri dishes, containing 1,050,000,000,000 cocci heated at 60 C. for one hour. September 23, the animal's index had fallen to 0.27, and he received intraperitoneally, 903,600,000,000 staphylococci heated at 60 C. for half an hour.

October 7, the index was 0.35 and the ram was injected with the agar-agar growth from six Petri dishes, estimated to contain 32,000,000,000 cocci heated for half an hour at 60 C. October 13, the animal received his fifth inoculation of 186,560,000,000 cocci, heated at 60 C. for only fifteen minutes. October 21, the eighteen various strains of staphylococci were again subcultured and fresh polyvalent suspensions prepared for Petri dish growths and culture for the determination of the opsonic index. The ram's index on this date was found still to be in the negative phase, namely 0.64, and his health appeared to be excellent. Accordingly it was decided to continue the inoculation with living bacteria, and 33,440,000,000 unheated staphylococci were injected intraperitoneally. One week later another injection of 100,320,000,000 living cocci was made. November 5 the opsonic index had risen to 1.02 and the ram received intraperitoneally the bacterial suspension from four Petri dishes, containing approximately 126,000,000,000 unheated staphylococci. Six days later the index had fallen to 0.8 and the ram was inoculated with 136,960,000,000 unheated cocci. November 18 the opsonic index was found to be considerably higher, reaching 2.0; the animal was inoculated with 47,240,000,000 unheated bacteria. December 2, the ram's immunity apparently reached its highest point, 3.55; nevertheless in an attempt to carry it still higher an injection of 40,960,000,000 unheated cocci was given. The indices determined seven and thirteen days later were found to have fallen to 1.65 and 1.6, respectively. December 18, the seventh inoculation (104,720,000,000 unheated cocci), with living bacteria, and the twelfth injection in all of staphylococci, was given. Five days later, December 23, the opsonic index was found to have risen to 2.6 and on the following day the ram was bled to death aseptically from the carotid artery. The serum was separated from the clot and hermetically sealed in glass ampules containing 1 and 2 c.c. each.

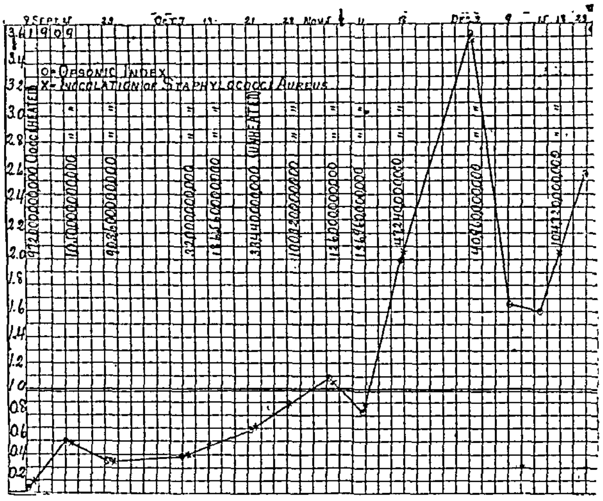

Chart showing inoculations and curve of opsonic indices illustrating immunity of ram.

The employment, practically, of this product of which I still possess a few sample ampules, I shall describe in twenty-eight case reports largely from the Surgical Outpatient Service of the Hospital of the University of Pennsylvania.

EMPLOYMENT, CLINICALLY, OF ANTISTAPHYLOCOCCIC SERUM

Although it was my desire to test the value of this serum practically in cases of staphylococcic bacteriemia, I have been disappointed in that respect, since there has been but a single case of septicemia, in which the blood-culture demonstrated the *Micrococcus aureus*. Consequently I have been obliged to apply it therapeutically, during its period of probable potency in a series of carbuncles and furuncles, many of which have been of an aggravated type.

Case 1.—Feb. 8, 1910. S. S., aged 15. An acute osteomyelitis of tibia, following osteotomy, developed a typical septicemia. Cultures both from the medullary cavity of the tibia at operation and subsequently from the blood demonstrated *M. aureus*. Later a suppurative arthritis of knee, demanding arthrotomy, and a suppurative inflammation of the wrist supervened. Bacterin therapy, instead of improving, probably aggravated the patient's condition. A course of hypodermic medication with mercury succinimid, strychnin sulphate, iron citrate and arsenic trioxid converted a most desperate condition into a curable case. After an illness of ten months, inoculations with antistaphylococcic serum were instituted. During a period of four weeks, five subcutaneous brachial injections of 1, 2, 2, 1.5 and 2 c.c., respectively, of the serum were administered. The patient exhibited marked improvement, his wrist healed immediately, he was able to go about on crutches, he gained greatly in weight, all sinuses about the knee, with a single exception, healed and he was discharged from the hospital precisely one month later.

Case 2.—March 11, 1910: J. P., aged 20. A virulent furunculosis of the head, face, neck, shoulders and arms had existed for two or three weeks. The infection was advancing rapidly, several new boils appearing daily; patient was feverish and obviously suffering from marked toxemia. Two c.c. of antistaphylococcic serum were injected subscapularly; two days later 2 c.c. more; four days later, 3 c.c. additional, and after another interval of four days a final 3 c.c. dose. After the first inoculation no new furuncles developed, and within two weeks the patient was entirely well, even the old boils having disappeared.

Case 3.—Dec. 3, 1910: V. C., aged 19. A recurrent furunculosis of four weeks' duration began in the axilla and recently manifested itself on the back of the neck. Patient was given 2 c.c. of antistaphylococcic serum subcutaneously. Two days later patient stated that boils on neck and in axilla were practically painless; he felt much better generally than for four weeks, no new boils developed and six days after the inoculation he was discharged cured.

Case 4.—Dec. 3, 1910: D. E. M., aged 23. Patient had suffered for a week, with no improvement, from a large carbuncle of the back, measuring 2 inches in diameter. One inoculation of 2 c.c. of antistaphylococcic serum caused a marked subsidence in the inflammatory phenomena, and the lesion progressed to a rapid healing.

Case 5.—Dec. 19, 1910: W. W., aged 24. Patient has a predisposition to furunculosis and recently lost considerable weight. During the past five days he has been the victim of an extensive outbreak of boils, no less than twenty appearing on the leg, thigh, hip and back, all on the left side. He was given an inoculation in the hip of 4 c.c. of antistaphylococcic serum. When seen six days later he felt much improved generally, and had noted the development of but two new boils. A second inoculation of a similar quantity of serum, increased to 6 c.c. one week later, caused the rapid disappearance of all furuncles.

Case 6.—Jan. 4, 1911: E. B., aged 34. Patient had a carbuncle, similar to the present one, on his wrist eight months ago; the present carbuncle is located on the upper forearm, is about 2 inches in diameter, and has six or eight openings. One injection of 4 c.c. of antistaphylococcic serum caused the lesion to undergo rapid resolution.

Case 7.—Jan. 10, 1911: L. G., aged 21. A relapsing furunculosis of the back, confined to an area 6 inches in diameter, had existed for two weeks, with little or no tendency toward improvement. An inoculation of 4 c.c. of the serum was given; the result cannot be noted, as the patient never returned to the dispensary.

Case 8.—Jan. 23, 1911: M. T., aged 21. Three days previously carbuncle developed on neck; this was followed by the formation of three additional associated boils. An inoculation of 4 c.c. of antistaphylococcic serum was given in the scapular region, followed three days later by a second similar inoculation. The effect was marked and the patient proceeded to a speedy convalescence.

Case 9.—Feb. 14, 1911: P. A., aged 36. Patient was the victim of furunculosis one year ago; during the past three weeks two or three furuncles formed on the neck, followed, the present week, by two additional ones. Two inoculations of 4 c.c. each of the serum, with an interval of three days, caused the rapid disappearance of all old boils and prevented the development of any new ones. Three days later when the patient was discharged he was given a prophylactic dose of 6 c.c. of the serum.

Case 10.—Feb. 18, 1911: L. P., aged 20. For two weeks, patient has been the victim of a virulent furunculosis; at present he has more than a hundred boils distributed over the hips and lower extremities. An inoculation of 4 c.c. of antistaphylococcic serum in the thigh produced a most pronounced benefit, although during the following four days three new boils appeared. A second inoculation of 6 c.c. of the serum sufficed to produce a complete cure.

Case 11.—March 20, 1911: H. H., aged 11. Patient was the victim of acute furunculosis. A single inoculation of 15 minims of the serum resulted in immediate cure.

Case 12.—April 1, 1911: E. McL., aged 17. Patient had acute furunculosis. An inoculation of 2 c.c. of antistaphylococcic serum resulted in rapid convalescence.

Case 13.—May 21, 1911: G. H. B., aged 21. Patient suffered from an acute boil. An injection of 4 c.c. of antistaphylococcic serum caused the furuncle to heal unusually rapidly with no recurrence.

Case 14.—May 29, 1911: G. W. L., aged 19. A large, indolent, painful furuncle of the buttock had existed for several days. On the second day after the administration of 4 c.c. of the serum, the condition was markedly improved and the "core" of the boil was readily removed. Healing followed rapidly.

Case 15.—May 31, 1911: L. A. E., aged 21. Acute furunculosis of the buttock. An injection of 4 c.c. of antistaphylococcic serum remarkably improved the lesion, and convalescence was rapid.

Case 16.—June 12, 1911: W. W. C., aged 20. Acute relapsing furunculosis of the buttocks. An inoculation of 4 c.c. of antistaphylococcic serum beneficially influenced the lesions, although convalescence was more protracted than is usually the case, owing to the fact that the patient was an oarsman and obliged to row daily.

Case 17.—June 17, 1911: F. E., aged 20. Furunculosis of the forearm. Inoculations of the serum of 4 and 6 c.c., respectively, with an interval of two days, caused the furuncle to heal rapidly. About one month later a new boil appeared on the leg; this also rapidly disappeared after an injection of 4 c.c. of the serum. No recurrences subsequently were observed.

Case 18.—June 20, 1911: J. N., aged 21. Furunculosis. June 20: Inoculation with *Micrococcus aureus* bacterin, 4 minims. June 23: antistaphylococcic serum, 2 c.c. June 26: antistaphylococcic serum 1 c.c., no new furuncles. June 29: antistaphylococcic serum, 1 c.c., two small abortive furuncles observed. July 3: *Micrococcus aureus* bacterin, 0.25 c.c. July 6: *Micrococcus aureus* bacterin, 0.5 c.c. July 10: *Micrococcus aureus* bacterin, 1.0 c.c. July 14: *Micrococcus aureus* bacterin, 1.6 c.c. July 17: *Micrococcus aureus* bacterin, 3.5 c.c. July 21: *Micrococcus aureus* bacterin, 2.0 c.c. July 28: *Micrococcus aureus* bacterin, 2.0 c.c. August 15: Has had but one boil on buttock since last visit, but none now for two weeks.

Case 19.—July 7, 1911: N. B. M., aged 31. Furuncle of forearm. Patient was not observed after the initial inoculation of 20 minims of antistaphylococcic serum.

Case 20.—Nov. 9, 1911: G. T., aged 25. Carbunculosis of neck. An inoculation of 2 c.c. of antistaphylococcic serum produced a notable improvement in the condition of the carbuncle. Two days later a second injection of 4 c.c. of the serum was given. The lesion healed rapidly and four days later the patient was discharged cured. One year later patient returned with recurrent boils of the neck. This time the treatment consisted of simple incision and drainage and tincture of ferric chlorid internally. No serum was employed, and it is of interest to note that the convalescence this time required just twice the time consumed on the former occasion.

Case 21.—Nov. 14, 1911: W. M., aged 42; acute furunculosis. Patient has had an attack of recurrent furuncles of seven days' duration; at present three boils are active on the forearm. An inoculation of 3 c.c. of antistaphylococcic serum, repeated three days later by one inoculation of 4 c.c., caused the furuncle to heal very rapidly without recurrence.

Case 22.—Dec. 8, 1911: G. W. S., aged 61. Furunculosis of the scalp. An inoculation of antistaphylococcic serum of 2 c.c., repeated in eight days by a similar injection, caused the prompt disappearance of all active lesions. At a subsequent visit it was learned that no furuncles had reformed.

Case 23.—Dec. 9, 1911: C. P. K., aged 22. The present condition, a recurrent furunculosis, seemed to be the exponent of a bacteriemia, originating from an infected wound of the knee associated with inguinofemoral lymphadenitis, fever and other symptoms of a general toxemia, occurring two weeks ago. At present patient suffers from several furuncles on the neck, accompanied with bilateral superficial cervical lymphadenitis. Four c.c. of antistaphylococcic serum were injected on each side below the furuncle-bearing area. Although the patient was greatly improved, two of the three boils having completely healed, two days later 2 c.c. of the serum were again administered on each side. On the fourth day following the patient's first visit, the neck was entirely healed, although some lymphadenitis still persisted. No more furuncles developed, but in order to increase the duration of the immunity, inoculation of autogenous bacterins was utilized. Accordingly an injection of 150,000,000 dead *Micrococci aurei* was given followed after two weeks by a second inoculation of 300,000,000 staphylococci, when the patient was discharged cured.

Case 24.—Dec. 12, 1911: J. J. R., aged 22; acute furunculosis of neck. An inoculation of 2 c.c. of the antistaphylococcic serum caused the furuncle to heal rapidly. Patient seen one month later was in excellent condition and had had no recurrence.

Case 25.—March 22, 1912: F. F., aged 23; recurrent furunculosis. During past two months patient has been the victim of repeated boils of thigh and neck. The present offender is quite large and painful. Five days after the inoculation of 4 c.c. of the serum, the furuncle was completely healed. There has been no recurrence to date.

Case 26.—March 25, 1912: E. G. W., aged 42; carbuncle of neck. Present trouble began one week ago as a small papule; it steadily increased to its present dimensions, 2 inches in diameter, and is extremely painful, preventing all sleep last night; pain extends to base of neck and even into arms. Patient has had a headache for two days and is nauseated. Four c.c. of antistaphylococcic serum were injected on each side in the suprascapular regions. Two days later, patient declared himself to be 50 per cent. better; said that most of the pain had disappeared. The inflammatory phenomena were remarkably decreased and circumscribed, and the "core" was removed. Two days later the patient was given a second inoculation of 8 c.c. of the serum and discharged.

Case 27.—April 12, 1912: T. C. N., aged 26; recurrent furunculosis. During the past six months, patient has suffered from recurrent boils in the nose. An inoculation of 4 c.c. of antistaphylococcic serum was administered. The final result is not noted in this case as the patient did not return.

Case 28.—May 20, 1912: P. Z., aged 12; acute recurrent furunculosis. During the past week at least a dozen metastatic boils have made their appearance, principally on the neck. One inoculation of 2 c.c. of the antistaphylococcic serum was given. This immediately prevented further recurrence and caused the present lesions to heal spontaneously.

SUMMARY AND CONCLUSIONS

1. The antistaphylococcic serum as herein prepared and described possessed unquestionable therapeutic efficiency in a series of conditions, both general and local, due to infections by the *Micrococcus aureus.*

2. Biologic therapy by a potent polyvalent antistaphylococcic serum is more effective in the presence of a staphylococcic bacteriemia than is the corresponding autogenous bacterin.

3. By virtue of the more immediate and decisive effects of the antiserum, it deserves first choice over the bacterin in the treatment of furunculosis and carbunculosis; on the other hand, a more intensive and lasting immunity can be conferred on the individual by supplementing the serum with two or three inoculations of the autogenous bacterin.

4. It is to be regretted that no attempt was made to standardize this antiserum with respect to standard units, since it must be conceded that the therapeutic failure or inefficiency of many serums is referable to the deficiency of the immune body content of that particular serum; or in other words to an improper or incomplete immunization of the animal utilized for the production of the antiserum.

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INTERMITTENT PYURIA DUE TO INFECTION OF THE PROSTATIC UTRICLE

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Geraghty, in March, 1912, called attention to the importance of infections of the prostatic utricle. The two following cases of intermittent pyuria attributable to the same cause are of interest in that such cases must be differentiated from intermittent pyuria due to conditions higher up in the urinary tract.

Case 1.—A. W. E., clerk, aged 32, unmarried, complained of frequency of urination. His family and personal history showed nothing of interest except an attack of gonorrheal urethritis eight years previously. He stated that his attack had lasted six months and was uncomplicated except for prostatitis, for which infection the gland had been massaged for some weeks. He had noticed no discharge since that time. At irregular intervals for the past three years he had had attacks of frequency of micturition lasting several days. He had noticed that during these attacks his urine seemed cloudy. The attacks were unaccompanied by any other symptoms.

On examination the external genitalia were normal in appearance, and there was no discharge from the meatus. The urine (three glasses) was turbid, the turbidity being due to pus. A catheter coudé was passed into the bladder in order to wash it out preparatory to a cystoscopic examination. It was noticed that the first 50 c.c. of distilled water run into the bladder came away practically clear, which was somewhat surprising in view of the turbid urine he had just passed. The bladder was then filled. The interior was found to be normal. The urine taken from each of the ureters was also clear and normal both microscopically and chemically. When I saw him a week later the urine he passed was perfectly clear and apparently normal. I then by endoscope found the following conditions in the posterior urethra: Verumontanum was swollen, edematous and congested, bleeding easily. The lips at the entrance of the prostatic utricle were glued together. When forced apart with a probe a drop of pus welled out, showing that it was under slight pressure. The pouch was then emptied by means of the instrument devised by Dr. Geraghty (improved by the addition of rings for the thumb and two fingers) and washed out with a 1 per cent. silver nitrate solution. After four such treatments at intervals of five days the patient recovered. He has had no attacks for the past eight months.

Case 2.—A. M. S., physician, aged 34, unmarried, complained of a "morning drop." He had had an attack of urethritis six years previously. No organisms had been demonstrated in the discharge at the time even after repeated examinations by different men. On a number of occasions he had noticed pus in his urine. At these times he had a sense of fulness in his perineum and aching in his testicles, especially after exercising. On one occasion a shaking chill accompanied by fever and general malaise had ushered in the attack. He had had no frequency of micturition or bladder symptoms at any time.

Examination of morning discharge showed pus but no organisms. Three glasses of urine were all turbid, showing pus. Combined secretions from the prostate and seminal vesicles were normal with the exception of a few pus cells. Neither gland was tender on pressure and both were normal in size and consistency.

Examination of the posterior urethra through the endoscope showed the verumontanum to be very edematous, the entrance to the prostatic utricle forming a deep longitudinal slit 2 mm. in length. The lips were adherent and after separation with a probe a quantity of pus was aspirated. One per cent. silver nitrate solution was injected. The urine became clear in three days. Seven days later when the posterior urethra was examined the lips of the utricle were again found adherent. They were separated and a quantity of pus mixed with spermatozoa aspirated. This happened in three successive sittings, the silver nitrate by eroding the mucous membrane evidently causing the adhesions. I then used a 1:1,000 dilution of liquor formaldehydi, let it remain about five minutes and withdrew it. The secretion aspirated some days later contained no pus but a number of normal spermatozoa. The patient has had no attacks for the past six months.

COMMENT

Geraghty mentions recurring attacks of posterior urethritis as one of the results of infection of the prostatic utricle. In the cases here reported the point of interest is the intermittent pyuria lasting a day or so and followed by the disappearance of all symptoms during the intervals, until sufficient pus accumulated for the pressure to overcome the resistance offered by the adherent opening to the utricle.

The symptoms shown by these patients are not unlike conditions of tuberculous and other infections of the upper urinary tract and should be considered in that connection.

A further point of interest in the second case (reported with permission of patient) was the opening of the ejaculatory ducts within the lumen of the utricle, as each time this was aspirated spermatozoa were withdrawn with the contents of the pouch. This probably accounted for the pain in the testicles of which the patient complained. It is surprising that he did not have a more marked infection of the seminal vesicles and epididymides.

Charles and Lafayette Avenue.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

ACNE VACCINE.—(See N. N. R., 1913, p. 221).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Acne Vaccin.—Marketed in packages of six ampoules containing 5,000,000, 10,000,000, 25,000,000, 50,000,000, 100,000,000 and 200,000,000 killed bacteria.

ANTIMENINGOCOCCUS SERUM.—(See N. N. R., 1913, p. 215).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Antimeningitis Serum.—A polyvalent serum prepared from the blood of horses immunized to the meningococcus of Weichselbaum (*Diplococcus intracellularis*), according to the method of Flexner (inoculation of autolyzed cultures followed by living organisms). Put up in a special form of container of 50 c.c. with needle and trocar.

BACILLUS COLI VACCINE.—(See N. N. R., 1913, p. 221).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent B. Coli-Communis Vaccin.—Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

SERUM ANTIDIPHTHERICUM AND ANTIDIPHTHERIC GLOBULINES.—(See N. N. R., 1913, p. 213).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Refined and Concentrated Diphtheria Antitoxin (Antidiphtheric Globulin). Put up in a syringe container. Immunizing dose, 1,000 units.

GONOCOCCUS VACCINE.—(See N. N. R., 1913, p., 223).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Gonococcus Vaccin. Marketed in packages of six ampoules containing respectively 50,000,000, 100,000,000, 150,000,000, 200,000,000, 350,000,000 and 500,000,000 killed bacteria.

MENINGOCOCCUS VACCINE.—(See N. N. R., 1913, p. 223).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Meningococcus Vaccin. Marketed in packages of three ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

PNEUMOCOCCUS VACCINE.—(See N. N. R., 1913, p. 224).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Pneumococcus Vaccin. Marketed in packages of six ampoules containing respectively 20,000,000, 50,000,000, 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

BACILLUS PYOCYANEUS VACCINE.—(See N. N. R., 1913, p. 222).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Pyocyaneus Vaccin. Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

STAPHYLOCOCCUS VACCINES.—(See N. N. R., 1913, p. 225).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Staphylococcus Vaccin. Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

Polyvalent Staphylo-Acne Vaccin. Marketed in packages of six ampoules containing respectively 100,000,000 killed staphylococci and 20,000,000 acne bacteria; 500,000,000 killed staphylococci and 50,000,000 killed acne bacteria; 1,000,000,000 killed staphylococci and 100,000,000 killed acne bacteria.

STREPTOCOCCUS VACCINE.—(See N. N. R., 1913, p. 226).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Streptococcus Vaccin. Marketed in packages of six ampoules containing respectively 100,000,000, 500,000,000 and 1,000,000,000 killed bacteria.

TYPHOID VACCINE.—(See N. N. R., 1913, p. 227).

Sophian-Hall-Alexander Biologic Laboratories, Kansas City, Mo.

Polyvalent Typhoid Vaccin. Marketed in packages of three ampoules containing respectively 500,000,000 and 1,000,000,000 killed bacteria.

TRANSFER OF AGENCY.—The Antirabic Vaccine, formerly manufactured by the American Biologic Company, Kansas City, Mo. (See New and Nonofficial Remedies, 1913), is now manufactured by the Sophian-Hall-Alexander Laboratories, Kansas City, Mo.

Therapeutics

CHRONIC URETHRITIS

In spite of the more general discussion of the so-called social evil and the wide-spread dissemination of knowledge concerning the so-called social diseases, specific urethritis, gonorrhea, is not less frequent or less protracted than formerly, and uneradicated gonococcus infection in the male continues to be all too frequent. It is still generally believed by the laity that gonorrhea is a simple disease and syphilis a serious one, and, although they begin to understand that syphilis can generally be cured after several years of proper treatment, they still do not recognize that gonorrhea is difficult to eradicate absolutely, and that apparent cures are very deceptive. Physicians also are too hasty to pronounce a specific urethritis cured, especially as it is so difficult to cause a patient who has no urethral discharge except the merest gleety exudate or a few shreds in the urine to believe that it is necessary to be treated, or to convince him that he could transmit the disease to some innocent woman. While sometimes the physician is at fault, in the majority of instances it is the patient who fails to listen to the physician's warnings; therefore the specialist in genito-urinary diseases should not blame the general practitioner for the many cases of uncured gleet that he has to treat.

This article is not so much to describe in detail the many valuable treatments for chronic urethritis, but is to urge more careful investigation as to the cause of the gleety discharge in any one patient. The urethra should be carefully studied for the localization of the chronic inflammation. Drugs administered internally in gleety conditions are worthless. The continued and prolonged use of urethral injections is not only worthless, but also harmful. A localized inflammation or a slight ulceration may have caused a narrowing of the canal or a stricture of large caliber which causes no obstruction. In such a condition there is still no question that the proper use of sounds, with massage of the inflamed region, dilatation of the constricted portion to normal caliber and prevention of the irritating secretions from being dammed back of this narrowed spot, often produces a cure; the discharge ceases, the shreds disappear, and gonococci cannot be found in the secretions. On the other hand, since electrically lighted urethroscopes are available, to treat a chronic urethritis without seeking the point or points of inflammation is as inexcusable as treating a sore throat with gargles without looking at the throat.

Dr. Victor C. Pedersen,[1] in two recent papers urges the use of the urethroscope, and describes the various makes. He reminds us that the structure of the urethra is eminently fitted for the growth of germs; it is not a hollow tube, but its walls are in contact, except when dilated by the passage of some fluid or an instrument. As the prostatic portion of the urethra is the widest part, with almost a pouch-like cavity, it forms a good harbor for the gonococci and a good place for their development. From this region they also readily infect the deeper parts of the mucous membrane. The prostatic sinuses on each side of the verumontanum also afford good sites for infection, especially if they happen to be deep. Besides the prostatic ducts, the folds in the roof of the urethra in this region also become easily infected. While the membranous portion of the urethra is less likely to become infected, the bulbous portion, which is more easily distensible and where the mucous membrane contains more folds, becomes easily infected, and in this region ulcerations and strictures are likely to occur.

Pedersen finds that the many mucous follicles along the dorsum of the anterior urethra often form mucous crypts, and when these become infected with the gonococcus the infection is difficult to eradicate. The infecting gonococcus, then, may be looked for not only in the folds of the mucous membrane of the urethra, especially in the bulbous and prostatic portions, but also in the mucous crypts or follicles, in the prostatic ducts, in the seminal ducts, and in the outlets of Cowper's glands. Pedersen also reminds us that after the specific inflammation of urethritis has become chronic there may result a thickening of the mucous membrane, cystic degeneration, inflammation and obliteration of the mucous crypts, and the production of unhealthy granulations which may finally become wart-like or papillomatous in character, and, acting as a foreign body, may perpetuate the chronic discharge, which may continually contain gonococci.

Such papers as these of Pedersen are valuable and necessary to remind the general practitioner continually that gonorrhea is always a serious disease, and that the harm a single attack can cause, both to the individual and to one or more women, must not be forgotten. It is useless for the gynecologist to present continually to the general practitioner the story of the lesions in the female from this germ unless it causes physicians to combat more energetically chronic urethritis or other left-over lesions from an acute gonorrhea. In other words, the best treatment of gonococcic gynecologic lesions is the prevention of chronic gonococcic urethral discharge in the male.

It should also be noted that with a chronic inflammation in the posterior part of the urethra or in the region of the prostate, sexual desire is stimulated, and with sexual gratification there is an increase in the congestion, and the disease is thereby perpetuated.

The lesion in chronic urethritis having been located by the urethroscope, local applications of weak solutions of silver nitrate, from 1 to 5 per cent. or even stronger perhaps, or the application of various more modern silver solutions at three or five day intervals, will frequently effect a cure. If the lesions are small, the swab treatment is best. If a whole region is inflamed, the instillation of from 0.5 to 1 c.c. (7½ to 15 minims) of a silver solution of proper strength at the same intervals is often a better treatment. When there is more serious chronic disturbance such as cystic degeneration or warty granulations, or when the follicles are affected, more scientific and more radical treatment is indicated, and a specialist certainly should be given the care of the patient. Pedersen finds that the best results are obtained by electrical applications with the fulguration wire, as it is termed. He varies the strength of the current from that of mere desiccation to actual cauterization, and he gives the treatment at intervals of from one to two weeks. Naturally such treatment should be given to but one small region at a time. Such electrical treatments must always remain in the hands of an expert. In order to specialize properly in this line of work, the physician should take clinical instruction under an expert.

The subject may be summed up as follows:

1. Acute gonorrhea is always a serious disease.
2. A large number of acute gonorrheas are only apparently cured.
3. Chronic urethral discharge, with or without gonococci, may be caused by lesions in various parts of the urethral tract and its adnexa.
4. Before the treatment of chronic urethritis is begun a careful examination of all parts of the urethra with the urethroscope should be made, as well as the usual examinations of the urine.
5. A urethral discharge, if evidenced by nothing more than a considerable number of shreds, should not be considered satisfactorily cured, but should be carefully investigated by an expert, and if definite lesions are found, the proper treatment should be administered by one who has specialized in genito-urinary work.

It is only by recognizing these conclusions as presenting fairly the menace of gonorrhea to the public that the serious gynecologic consequences can be prevented.

Working Men's Compensation Laws and Defective Sight.—As pointed out by Shastid, in consequence of working men's compensation laws, which render employers liable for injuries to their workmen, irrespective of technical matters, it is important for the employer to know to a certainty before he grants employment that the applicant is possessed of sufficient visual power to keep him from being hurt. Visual deficiencies which would jeopardize a man at work are usually due to a diseased condition of the media or of the optic nerve, retina or chorioid. Refraction errors are less likely to endanger limb or life because the field of vision is not materially contracted, and because such errors are usually of a congenital nature so that the possessor of them has learned in a measure to compensate for them. But there can be no doubt that errors of such a degree as materially to reduce vision and thus require the eye to be brought closer to the work than is usual would entail danger by bringing the body in proximity to unprotected (but, under natural conditions, safe) parts of machinery.—W. Zentmayer in *Ann. Ophth.*

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[1] Pedersen, Victor C.: New York Med. Jour., Oct. 19, 1912, p. 779; A Light-Carrier with Lens and a Rheostat for Urethroscopy, THE JOURNAL A. M. A., Jan. 18, 1913, p. 182. Dr. Pedersen also ably discusses the treatment of the acute stage of specific urethritis in the New York Medical Journal, Feb. 15, 1913, p. 327.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

535 Dearborn Avenue . . . Chicago, Ill.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

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SATURDAY, APRIL 5, 1913

SOME PHYSIOLOGIC ASPECTS OF EXERCISE

The indulgence in athletics as a mode of promoting health and physical well-being, and the rational employment of exercise as one of the devices of physical therapy, demand a thorough understanding of the physiologic phenomena and consequences attending various forms of muscular activity. It has come to be widely recognized that no person should be permitted to engage in exhausting sports or unusual physical exercises who has not a normal constitution which will insure him against possible untoward effects of extraordinary effort. A careful physical examination by a competent medical adviser has become a recognized practice in gymnasiums, sanatoriums and comparable institutions in order that those of weaker physique who may be handicapped by some bodily defect or particularly susceptible organ may not suffer damage from undue activity. When we inquire, on the other hand, what the actual physiologic consequences of exercise are, what functions are altered and how, it is not always easy to find an answer. The physiology (and pathology) of exercise is a theme which largely remains to be written. Certain facts have forced themselves on our attention in an emphatic way, and permit of broad generalization. This is true, for instance, of the general response of the heart and the changes in the circulation incident to muscular activity. The underlying causes, the regulating mechanisms, the abnormal responses—all demand critical interpretation. And this statement applies in still larger measure to other related phenomena such as the manifestations of fatigue or the escape of the organism from it.

The careful studies of Cook and Pembrey[1] of London will be welcomed in this connection. They have made many observations on the respiration, pulse and temperature of healthy men before and after exercise, for the purpose of elucidating the phenomena of muscular dyspnea, "second wind" and training. The mean composition of the alveolar air during rest was found to be 5.57 vols. per cent. of carbon dioxid and 14.89 of oxygen; directly after muscular exercise the means were 6.52 vols. per cent. of carbon dioxid and 14.33 of oxygen.

The respiratory quotient $\frac{CO_2}{O_2}$ is often quoted to indicate the nature of the compounds consumed in the body when energy is liberated for various physiologic functions. The figures for protein, fat or carbohydrate combustion are distinctive and can be used under appropriate conditions as an index of the character of the metabolism going on. Cook and Pembrey have pointed out that during vigorous muscular work the respiratory quotient can no longer be depended on to represent the resultant of the metabolic activities, for the rapid ventilation of the lungs in the dyspneic stage can wash carbon dioxid out of the blood without producing a corresponding increase in the absorption of oxygen. The quotient is thus raised as the result of the altered pulmonary ventilation without regard to the metabolism itself.

The ventilation of the lungs is, of course, greatly augmented by exercise, and the respirations are increased in frequency and amplitude. The influence of oxygen on these phenomena has been the subject of considerable discussion in recent years. According to the London investigators there appears to be little or no definite influence on the volume breathed and the number of respirations when the subject at rest breathes oxygen instead of air through a mask and valves. It is necessary, they state, to take precautions to prevent the influence of suggestion and also to moisten the oxygen, which otherwise would differ from the air in being dry and cool. Under such carefully guarded conditions, which indicate the tendency of incompetent observers to draw false conclusions, most men at rest cannot recognize any difference between pure oxygen and air. After exercise the postponement of distress during breathing in and out of a spirometer enabled subjects to recognize when the latter contained oxygen. The lack of oxygen as well as the accumulation of carbon dioxid may act as a stimulus to respiration, especially after active exercise; but the amount of oxygen in the alveolar air is less affected under ordinary conditions of work than is that of carbon dioxid, so that the administration of oxygen is regarded of value by Cook and Pembrey as a rule only when the conditions are pathologic.

The differences in the pulse-rate in healthy men are reported to range from 47 to 90 per minute. Directly after exercise the pulse-rate may be as high as 180 per minute. The return of the pulse to its rate during rest is of considerable importance. The influence of training comes into distinct relief in this connection. In the well-trained man there is a rapid recovery and a tendency for the rate of the pulse to fall below its original value during rest; in the untrained man the rate remains high and often irregular for some time. Irregularity of the pulse after exercise has been observed frequently. Apart from the rapid decrease in the rate, Cook and Pembrey have noticed that in some strong and well-trained men beats appear to be dropped; in untrained men the irregularity shows itself in the rate and volume of the pulse. It appears from the studies on record that an examination of the pulse affords the readiest means of testing the influence of muscular exercise, but it is necessary to make determinations before and at various periods after the work. A rapid return of the pulse to its original frequency during rest appears to be the best indication of good accommodation and training; in well-trained men the return is so rapid that observations must be taken in successive periods of fifteen seconds, if true indications of the influence of exercise are to be obtained.

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[1] Cook, F., and Pembrey, M. S.: Observations on the Effects of Muscular Exercise on Man, Jour. Physiol., 1913, xlv, 429.

It is well known that muscular exercise increases the temperature of the body when the measurement is made in the rectum or in the stream of urine. The values obtained in the mouth are not very reliable as indications of the internal temperature of the body, for the boundaries of the mouth are thin and easily cooled by the air and by evaporation from the external skin surfaces. Time has been required for the recognition of this physiologic rise in temperature owing to the fact that the practice of observing temperature in the mouth has been and still is so wide-spread. It is stated that the internal temperature may rise to 102 F. (39 C.) in perfectly healthy men without provoking distress or discomfort if the body is lightly clad and there is no obstacle to the free evaporation of sweat. Only when the clothing is unsuitable or the muscular work is performed in a warm, moist atmosphere does discomfort manifest itself.

Cook and Pembrey maintain that the rise of internal temperature found in men well trained and in perfect health has a beneficial effect on the performance of muscular work. Persons work more efficiently when they are "warmed for their work." There are several explanations for this beneficial influence: the excitability of the respiratory and cardiac centers is increased and the blood gives up its oxygen more readily to the tissues.

Athletes are familiar with the phenomenon of "second wind," the expression popularly applied to the disappearance of the discomfort and dyspnea which frequently arise very soon after the initiation of vigorous muscular exercise. This accommodation can scarcely be due to training; for in the untrained the phenomena are often more marked than in the trained. Any vigorous and continuous muscular activity may produce the conditions. Experimental analysis has led to the conclusion that "second wind" is an adjustment of the respiratory and circulatory systems to the demands of the muscles for an adequate supply of blood. Carbon dioxid appears to be the chief factor in effecting the accommodation.

ANIMAL PARASITES IN TUMOR FORMATION

There are some who hold that non-malignant tumors may be caused by the irritation of various parasitic organisms, while others go so far as to assert that malignant tumors are the result of the direct and specific action of certain germs. Of the correctness of the latter view, however, there is no generally accepted proof; but it is an established fact that the presence of parasites in the tissues may become associated with tumors. Thus there have been observed numerous instances of the association of tuberculosis and carcinoma. Perhaps as striking an example as any of parasites associated with malignant tumors is seen in bilharziosis of the urinary bladder. The cystitis caused by *Bilharzia haematobia* is so frequently accompanied with malignant growth, mostly epithelial, that it seems as if there must be a more or less direct connection between the parasite and the cellular proliferation.

Recently Fibiger[1] described an interesting instance of this general nature which he has studied with great care. By chance he found papillomatous growths in the stomachs of three wild rats. The growths originated in the fundus, which in the rat is lined with squamous epithelium. There were no metastases. Both acute and chronic inflammatory changes were present, and epithelial strands delved downward, pushing their way into the muscularis mucosae, some even into the submucosa, where cysts and crude epithelial pearls were found. In the epithelium beneath the stratum corneum were inclusions which later proved to be animal (nematode) parasites which it was possible to reconstruct from the serial sections. Post-mortem examination of over a thousand other rats in routine laboratory work revealed no conditions similar to those just described, nor were nematodes found. Examination of sixty-one rats from a sugar refinery showed nematodes in the fundus of the stomachs of forty and in eighteen papillomatous proliferation of varying degrees was present; in nine there were well-defined tumors. These rats were known to feed on certain roaches (*Periplaneta americana*) infesting the refinery, and examination revealed trichina-like organisms in the striped muscle of the extremities and prothorax of the roaches. When normal rats were fed with roaches from this refinery, nematodes appeared in the mucosa of the fundus of almost all of the rats, and many of them developed the hyperplastic changes suggestive of early stages of tumor. Appearances interpreted as genuine tumors were found in some.

Roaches free from parasites, when fed on the eggs of this nematode and on rat feces containing such eggs, developed the muscle infection, and when fed to fresh rats readily caused the disease in the stomach, so that in from six to eight weeks the feces constantly contained eggs. Direct transmission of the ova to normal rats failed to infect, and hence it is concluded that the roach is a necessary host in the life-cycle of the parasite.

Of a total of 118 rats fed on roaches containing larvae, ninety-four showed parasites in some of that part of the alimentary tract which is lined by squamous epithelium. In twenty-three of these rats there were moderate hyperplastic changes accompanied by small papillomas of the mucosa. In sixteen the papillomas were well developed so that the wall of the stomach measured as much as 1 cm. in thickness and was studded with "fibro-epithelial excrescences"; in five the lumen of the fundus was entirely occluded; in three cases the papillomas were solitary and about the size of a walnut. Microscopically a hyperplasia of the upper epithelial layers was invariably present. Eosinophils and plasma cells and collections of leukocytes in the submucosa were not infrequently seen. In general it was found that the intensity of the pathologic changes varied directly with the number of included parasites. Bacteria were seldom found except in the upper epithelial layers.

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[1] Fibiger, J.: Cancer Induced in Rats by Feeding with Parasites of Cockroaches, Berl. klin. Wchnschr., 1913, L, 289; abstr., THE JOURNAL A. M. A., March 22, 1913, p. 948.

Fibiger makes a special report of four cases in which the growth was infiltrative and distinctly carcinomatous. These animals had been fed on roaches containing larvae. In one of them a second tumor was found in the urinary bladder, and Fibiger believes that the latter may have been metastatic. In another rat a metastatic nodule was found in the lung, while a third rat showed metastases in regional lymph-nodes, and serial sections of the metastases failed to reveal the presence of nematodes in any of them.

The work is most interesting. That the parasites described are responsible for the proliferations in the mucous membrane of the rats seems almost beyond question. That the parasites establish themselves only in that part of the alimentary tract which is lined by squamous epithelium points to a peculiar affinity. Their action would seem to depend on the production of some substance that stimulates cells to undue proliferation. Can this substance be extracted? This and other questions await further research. A most valuable result of Fibiger's observations would seem to be that he has discovered an example of close association of an animal parasite and cellular proliferation at times becoming malignant under such conditions that it is easily susceptible of experimental study.

THE PIGMENT OF THE CORPUS LUTEUM

With the progress of biochemical research the marked analogies that exist between the processes and physiologic performances of animals and those of plants, and the comparable chemical nature of the many compounds which occur in both types of living organisms, are becoming more and more clearly recognized. The pronounced contrasts between animals and plants which were until recently described as distinguishing characteristics are now offset by the emphasis on similar features which differ in the two groups solely in their quantitative rather than their qualitative aspects. Foodstuffs and enzymes find related representatives in both kingdoms; and pigments once supposed to represent an exclusive character of vegetable forms have yielded evidence of a close structural relationship to animal color products.

The truth is that with the gradual elimination of "vitalistic" notions from biology there is no logical reason for the barriers once set up between the different examples of animate forms. A recent illustration of the little suspected identity of two products of very diverse origin has been brought to light in Professor Willstätter's laboratory in Zurich. Escher[1] has isolated in pure form the yellow pigment of the corpus luteum and subjected it to careful chemical investigation. He has revealed the complete correspondence of this long-known coloring-matter with the pigment known as carotin and already prepared from carrots and green leaves. This is likewise closely related to lycopin, a pigmentary substance of tomatoes.

Some time ago Willstätter divided yellow plant pigments into two groups on the basis of certain solubility reactions. Each of these has now found a representative in the tissues of animals. The corpus luteum pigment, just identified with the carotin of vegetables, furnishes an example of one of the groups; in the other is found the so-called lutein which characterizes the color of the yolk of the hen's egg. Here then are two different, though hitherto confused, animal coloring-matters, each corresponding to an identical or nearly related analogue in plants. Henceforth we shall be expected to speak of carotin from corpus luteum and carotin from carrots, reserving the old designation "lutein" solely for the egg-yolk pigment.

The functions and significance of these coloring matters call for renewed investigation. An oxygen-carrying activity has been suggested for them, but it is too soon to relate the compounds to the internal respiration of the tissues in which they are known to occur. The difficulties of the study of the properties of carotin and the expense and labor involved may be gathered from Escher's experience. From ten thousand cattle ovaries, weighing 146 kg. (about 322 pounds), there was isolated less than half a gram (7 grains) of purified product. Such are the limitations of exact research.

THE NATURE OF THE SO-CALLED KLAUSNER SEROREACTION

In 1908 Klausner[2] described an easily executed reaction which was observed to occur in certain blood-serums and gave promise of having a useful diagnostic bearing. He noted that when distilled water is added in certain proportions to fresh human serum a distinct flocculent precipitate separates in some instances within a period not exceeding twelve hours. This precipitation phenomenon was regularly manifested by luetic serums, whereas it was not a usual manifestation in the serum from non-syphilitic individuals.

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[1] Escher, H. H.: *Ueber den Farbstoff des Corpus Luteum*, Ztschr. f. physiol. Chem., 1913, lxxxiii, 198.

[2] Klausner, E.: Vorläufige Mitteilung über eine Methode der Serumdiagnostik bei Lues, Wien. klin. Wchnschr., 1908, No. 7; Ueber eine Methode der Serumdiagnostik bei Lues, ibid., No. 11; Ergebnisse mit der von mir angegebenen Präcipitationsreaktion bei Syphilis, Prag. med. Wchnschr., 1908, xxxiii, No. 46; Klinische Erfahrungen über das Präcipitationsphänomen mit destilliertem Wasser im Serum Syphilitischer, Wien. klin. Wchnschr., 1908, No. 26.

The incidence of the precipitation reaction thus indicated at once gave emphasis to the possibility of utilizing the phenomenon as a specific test for syphilitic infection. More extended observation soon proved, however, that the Klausner seroreaction with distilled water is shown in other diseases, notably in certain skin affections, so that its specificity for syphilis can no longer be asserted, particularly in contrast with the behavior of the Wassermann test. Nevertheless, it is interesting to learn that despite an occasional manifestation of the precipitation in other cases, the Klausner reaction is said to follow almost invariably in certain stages of the syphilitic exanthem.

Notwithstanding the problematic or negative value of the formation of a precipitate in selected instances when an empirically ascertained proportion of water is added to fresh serum, the underlying significance of the reaction calls for elucidation. From the point of view of the chemistry of the serum proteins one would anticipate that dilution with water might precipitate the globulin fraction which is less soluble as the concentration of salts diminishes. One might assume at first consideration therefore, that luetic serum and the serum of some of the other disorders are exceptionally rich in globulins and thus account for the possibility of inducing a more ready precipitation with distilled water. Klausner has lately shown that this explanation will not suffice.[3] An extended experimental study of the reaction has led him to the conclusion that lipoids are involved in the phenomenon. Every serum with which the precipitation can be demonstrated can be "inactivated" by extraction with ether or by heating. Serum inactivated by ether can be restored to a reactive state by addition of lipoids; the effect of heat cannot thus be compensated. Normal serum which does not give the Klausner test can be "activated" by addition of lipoids if it has not been heated. These and added features which need not be detailed here strongly suggest that the positive outcome of the Klausner reaction is dependent on an increased content of lipoids in the blood-serum in certain stages of syphilis and in other infections. Once more this indefinite group of ether-soluble compounds has been brought into relation to some of the phenomena of immunology.

PRESIDENT WILSON RISES TO AN EMERGENCY

The recent situation caused by floods and storms was the first emergency to confront the new federal administration, still only a month old, yet there was no delay or lack of readiness to rise to the occasion. President Wilson promptly offered the help of the entire country to the stricken communities. Tents, cots, blankets and food were ordered into the storm-swept and flooded districts, in the most expeditious manner possible. But the President did more than this. Within twenty-four hours after the development of the floods in Ohio and Indiana, he directed three steps to be taken, which, so far as we are aware, are unprecedented. They are also highly significant of the attitude of the President and the new administration toward the activities of the federal government. Yet they were taken so quietly, and so much as a matter of course, that probably nine out of ten of those who read the dispatch from Washington saw no significance in the orders which had been given.

The first was that the crews and equipments from the life-saving stations on Lake Michigan and Lake Erie were ordered to proceed at once to the flooded districts to assist in saving lives. Like all simple but unprecedented acts, the common sense of this move commends itself at once to all. Boats were lacking, and the government had them. Experienced men were needed and the government had them. The season of navigation on the lake is closed at present and there was no great need for the life-saving crews at their stations. What more natural than to use the trained men and the special equipment of the Life-Saving Service to save lives in the flooded districts?

The second was to direct the Secretaries of the Treasury and of War to send at once into the afflicted districts all of the available medical officers of the Public Health Service and of the Army. Government surgeons have been sent before to establish quarantine and to stamp out existing epidemics. But, so far as we know, this is the first time that the health officers of the federal government have been ordered into a region to prevent the breaking out of epidemics and disease. Again the quiet common sense and disregard of governmental red tape on the part of the President must win the commendation of every sensible citizen.

The third thing the President did was to order ten thousand vaccine points and a thousand ampules of antityphoid serum sent at once into Ohio and Indiana for use in preventing epidemics of small-pox and typhoid. He did not expect the government surgeons to go to their work without being properly equipped. They were to be given all the aid that science could give them. Modern bacteriology and sanitation have proved that small-pox, which generally breaks out following great disasters, can be prevented and stamped out by vaccination. Extensive experience in the United States Army and elsewhere has proved positively, in the last three years, that typhoid can be prevented by proper vaccination.

The nation is fortunate in having as its chief executive a man who does not fear official red tape, moss-grown precedents or the opposition of the ignorant and fanatical followers of fantastic cults, but who will calmly, fearlessly and sensibly place at the disposal of any stricken or afflicted [illegible] available [illegible] of the government [illegible] ance for [illegible] vention of disease [illegible]

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[3] Klausner, E.: Ueber das Wesen der sogenannten Klausnerschen Serumreaktion, Biochem. Ztschr., 1912, xlvii, 36.

DOCTORS IN TIMES OF PERIL

During the recent period of disaster and havoc ordinary events were relegated to the back pages of the newspapers. Every issue of the dailies was full of heart-rending and pathetic stories of disasters, storms and floods. The people responded to the call for help with the magnanimity and promptness which characterize the nation. From the scenes of the disaster came the call for food, clothing and shelter. But before this there came a call for physicians to minister to the wounded, the sick and the dying. From almost every afflicted locality soon came the same statement, "A special train carrying volunteer physicians, nurses, dressings and medical supplies is on the way to the scene of disaster."

So it is after every great calamity. The first men on the scene are physicians, performing their sacred work of saving life and relieving the suffering. This happens so constantly as to be an accepted occurrence. No one expresses any surprise. On the contrary, surprise would be aroused only if the nearest available physicians ever failed to respond in numbers equal to the need. Leaving their own work, volunteering without hesitation for the hardest service, they toil often for days and nights without intermission, without asking for or expecting compensation. Instances are not hard to find. Following the recent cyclone in Omaha, our correspondent writes: "I have personal knowledge of physicians whose homes were destroyed, yet the moment they knew their families were not injured they left them and worked all night, ministering to the maimed and dying." There never has been a public calamity in which the services of physicians were not instantly offered, without money and without price.

At such times what becomes of the innumerable sects and cults which, under ordinary conditions, are constantly trying to usurp the place of the scientific medical profession and undermine the confidence of the public? Apparently they sink into obscurity and silence. When the emergency arises, what have they to offer? Suppose the dispatch from Ohio last week had read: "A special train containing one hundred osteopaths is on the way to Dayton. All of the sufferers will be given spinal adjustments as soon as the train arrives." Or "It is reported that two hundred people are dead and thousands rendered homeless and in danger of their lives through exposure due to the floods in Columbus. A special train containing one hundred chiropractics is being sent to the scene at once. Those suffering from injury and exposure will be given immediate treatment for nerve impingement." Or let us even suppose that those who disdain all material methods should emerge from their state of self-absorption long enough to do something practical: "Senator Works telegraphs that he has arranged for a special train, containing one hundred Christian Science healers, to be sent to Omaha. This train has been given the right of way over all railroads. All persons injured in the cyclone and the blizzard will be given mental treatment as soon as the train arrives." No such items have appeared in any of the newspapers. They would be greeted with laughter from all over the country. The peculiarity common to all of the unscientific and irrational cults and fads is that, in times of real peril and need, they have nothing to offer. When lives are in danger and when death rides on the wind and waters, the people want the men of scientific training and experience, of cool judgment and steady nerves, who can carry to them all the aid the human intellect in its centuries of struggle has been able to discover. Fads and isms may be followed by some of our people in times of peace and safety, but they fail when real danger threatens.

COOPERATION AMONG PUBLIC HEALTH ORGANIZATIONS

The present campaign against disease and preventable death is now about two decades old. The causes, methods of transmission and means of prevention of almost all infectious diseases have been discovered within that period. During this time each state has had some form of health organization; but owing to the diversity and limitations of laws in the different states, as well as to the rapidity with which our knowledge regarding the causation and prevention of disease has developed, state and local health boards have been supplemented, in many cases, by volunteer, philanthropic bodies, interested in some special phase of the health situation. These organizations have proved important factors in the general public health campaign. Of late, however, it has been increasingly evident that with the multiplication of independent organizations there is danger of overlapping of function, interference in work, duplication of efforts and expenses, and — most important of all — lack of effective cooperation for want of a common program of procedure which would unite all organizations interested on a common platform, without interfering with the special work for which each organization was created.

After careful consideration of this problem, the Council on Health and Public Instruction of the American Medical Association, early in January, addressed a letter to the executive officers of thirty of the more important national organizations, suggesting a conference of executive officers to consider whether there is any overlapping of organizations and also whether there is, at present, any common ground for cooperation and mutual helpfulness among the organizations now in existence. This proposal was generally endorsed; and a second letter suggested that a conference be held in New York, Saturday, April 12, at the headquarters of the American Association for Labor Legislation, 131 East Twenty-Third Street, and asked for suggestions regarding other organizations interested. The bodies addressed included official and governmental organizations such as the United States Public Health Service, the Division of Vital Statistics and the Child Welfare Bureau; semipublic organizations, such as the National

Red Cross, the American Public Health Association and the Conference of State and Provincial Boards of Health; professional organizations, including the American Institute of Criminal Law and Criminology, the American School Hygiene Association, and the National Educational Association; scientific bodies such as the American Association for the Advancement of Science; philanthropic organizations of which the Russell Sage Foundation, the Rockefeller Sanitary Commission, the Elizabeth McCormick Memorial Fund and the Carnegie Institution are examples; business organizations, including the Association of Life-Insurance Presidents, as well as the Metropolitan, Prudential, Equitable, Postal and other insurance companies carrying on conservation work; special organizations, like the American Association for the Study and Prevention of Infant Mortality, the Association for the Study of the Feeble-Minded, the Association for the Study and Prevention of Tuberculosis, the National Child Labor Committee, the American Association for Labor Legislation, and the National Breeders' Association, and great national organizations interested in civic and national conservation, such as the National Conservation Congress, the American Civic Association, the National Civic Federation, the National Housing Association, and others.

The unanimity with which these organizations have responded to the suggestion for a conference plainly shows that the movement inaugurated by the Council on Health and Public Instruction is timely and necessary. The conference to be held in New York next week will be unique. About sixty organizations, all of national scope and all interested in some phase of the public health question, have intimated that they will be represented, in the majority of cases, by executive officers or by those having in their hands direct administration of the public health functions of the organization. The general subject for discussion will be: "How can better cooperation and coordination be established among the health forces of the country, so that the best results can be secured?" The discussion which will be presented on this subject cannot fail to be illuminating and valuable. In fact, it is reasonable to hope that this conference may mark a new era in our public health campaign.

Current Comment

SYSTEMATIC PREVENTION OF MINE ACCIDENTS

As the result of a conference which was held under the auspices of the United States Bureau of Mines last September, the American Mine Safety Association has been organized, with headquarters at Pittsburgh, Pa. Its members include the leading coal and metal mine operators, mining engineers and mine safety engineers of the country. Its purpose is the conservation of the life and health of the miner and a reduction in property loss due to explosions or fires in mines. It will attempt to place before the miners standard methods to be used in rescue work and in first aid to the injured. The work of the Bureau of Mines in reducing the number of deaths in the mines has led to the adoption of many different types of rescue apparatus, and also to the use of many different methods of resuscitation and first aid to the injured. Hundreds of mines within the last three or four years have been equipped with rescue apparatus, rescue corps and first-aid corps. Many of the men, in emergencies, have developed their own ways of doing things. The organizers of this association feel that the most efficient methods and apparatus in actual use should be found and recommended to the mining industry for general use. There were 2,719 persons killed in the coal-mines of the United States during the year 1911, and 9,106 seriously and 22,228 slightly injured. Nearly an equal number of men were injured in metal mines and quarries. Mine operators now realize that it is more expensive to restore wrecked mines, more costly to fight damage suits through the courts, and less profitable to pay regulated liability charges or even workmen's compensation, than it is to bear the cost involved in reducing these charges by means of diminishing the number of accidents and the duration of the resulting disability by the adoption of improved safety, rescue and first-aid methods. Fifty-eight per cent. of all industrial accidents are shown by statistics to be due to negligence, carelessness or lack of knowledge of employers or employees. The vital necessity of learning everything possible about the causes and means of preventing these accidents must be evident to every man concerned in mining. To the operator it spells business success or failure; to the miner, life or the physical ability to work and support a family.

THE "ORIGINAL ARTICLE" FRAUD—A RECRUDESCENCE

In our article[1] on "Flours and Foods for Diabetics," two weeks ago, some space was given to a discussion of the Jireh Diabetic Food Company. This is a concern which sells a dangerous and fraudulent product for diabetics under the claim that the starch in it has been so "treated" that it is not dangerous for those who suffer from diabetes. The Jireh concern has so juggled its advertising matter as to keep within the letter of the Food and Drugs Act while violating its spirit. We said in the article that the Jireh Diabetic Food Company was evidently intending to invade the medical journal advertising field. Our belief was based on the fact that the company was already advertising in the *Dietetic and Hygienic Gazette*, the *Medical Summary*, the *Medical Times* and the *Therapeutic Record*. The belief was further strengthened by the appearance of an advertisement—whether paid for or not, we do not know—in the form of an "original article" that has already appeared in the March issues of the *Southern Practitioner* and the *Medical Summary*. How many other journals will print this "article" remains to be seen. The article is entitled: "The Value of Starch-Treated Foods in the Dietotherapy of Diabetes Mellitus," by one George M. Norton, M.D., Savannah, Ga. D[illegible] the past few days the editors of medical journals in various parts of the country have received typewritten abstracts of the Norton "article," together with letters signed by George M. Norton stating that "it occurs" to him that should an abstract of his article appear in the various journals to whose editors he writes, it "would be appreciated by your many thousand readers, and the abstract is, therefore, respectfully submitted." The Norton letter continues: "I hope you will extend to me the courtesy of giving space to this extract in an early issue of your most excellent journal." We had fondly hoped that the "original article" method of advertising had gone out of date, thanks to the publicity this method of humbugging physicians had received from The Journal. But "eternal vigilance is the price of freedom" — from advertising fraud. Possibly the Jireh Diabetic Food Company may consider that it has very smartly "put one over" on our profession. If so, it is mistaken. The employment of methods belonging to an advertising era fortunately past will merely serve to emphasize the fact that the sale of Jireh Diabetic Foods depends on misrepresentation or deceit.

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[1] Propaganda Depar[illegible] M. A., M[illegible] 1913, p. 922.

"THERE'S A REASON"

Those readers of advertisements who are of an inquiring turn of mind may have wondered wherein lay the secret of the marvelous properties that have been ascribed—by the manufacturer—to Grape-Nuts. It is admitted to be but a combination of wheat and barley, and yet we have been told that this combination is a "special food for the brain and nerves," is good for appendicitis, "loose teeth," and various other unpleasant conditions. The manufacturer has at last explained. "There's a reason." Naturally enough, he makes this explanation in the pages of scientific publications, to wit, medical journals. Thus we read in current issues of some medical journals:

> To estimate the "calorie" value of Whole Wheat and Barley would seem *(in the laboratory)* to be a *correct computation* of the dietetic value of the well-known food (made of these two cereals)—Grape Nuts.
>
> But, professional accuracy of observation from a clinical standpoint, and confirmed, in an empirical way by many of the more intelligent laity, has shown in many individual cases during a decade or more, that Grape Nuts, for some reason possibly not readily demonstrable by the mathematics of chemistry, supplies in a prompt and practical way far more *real nutritive value* than the laboratory chart gives to mere Wheat and Barley.

After thus destroying the idols of science, the iconoclastic advertisement writer naively remarks: "The above is well worth looking into. . . ." Yes, indeed. So also are the conservation of energy and the immutability of the elements and the indestructibility of matter and Newton's law of gravitation and a few other fundamentals that scientific men fondly imagine to be fairly well-demonstrated scientific facts. It would seem to be the apotheosis of advertising misrepresentation when it becomes necessary for the exploiter of a breakfast-food to try to convince physicians that $2 + 2 = 5$. Why medical journals should be willing to "fall for" this sort of pseudoscientific twaddle we do not know; but, doubtless, "There's a reason."

ONE CENT A DAY FOR HEALTH

Every one has been interested in the wonderful work being done in Panama in the construction of the canal. Startling as have been the results of the work of the engineers and builders, the work of the Sanitary Department has been even more wonderful. In a region noted as the most unhealthful in the world, in which our predecessors, the French, were unable to succeed because they could not keep the workers alive, American Army surgeons, by the use of scientific facts known to all, have succeeded in lowering the death-rate among American residents far below that of our most favored American communities. According to Colonel Gorgas, the chief sanitary officer of the Canal Zone, the death-rate for 1911 among 10,489 Americans was only 4.48 per thousand. While this result has been mainly due to the control of yellow fever and malaria, and while it is true that the American population consisted of picked individuals, largely of educated men and women in the prime of life, yet even with all these conditions recognized, the record is a remarkable one, and is probably without a rival. And all this, says Colonel Gorgas, has been accomplished at an expense averaging one cent per day for each individual. If this result can be secured at this cost in the center of a tropical jungle, what would not a similar expenditure do for our American cities? One cent a day is what the average American pays for a daily newspaper. It is one-fifth the cost of one five-cent cigar. It is one-fifth the price of a daily street-car ride. It is one-fifth the cost of admission to a moving-picture show. It is one-fifth of what we pay for a glass of soda-water or a package of chewing-gum. Who would say that the expenditure of this amount would be any burden to this rich and extravagant nation? And yet it is the cost of life itself. Is one cent a day too much to pay to protect the life and health of an American citizen?

MUNICIPAL CHARITIES OF PHILADELPHIA

We have received the "Report of the Committee on Municipal Charities of Philadelphia," a book of 150 pages. The committee consisted of representative physicians and citizens of Philadelphia appointed by Mayor Blankenburg, and the report is a record of, and a protest against, the manner in which the public institutions and charities of a great city have been organized, provided for and managed. One receives the impression that better terms to denote the conditions would be "unorganized," "unprovided for" and "mismanaged," though all these terms represent shortcomings of the city government rather than of the officials of particular institutions. Politics and pull seem to be writ large over the whole situation, and lack of classification and separate provision for the different classes of the city's wards, or lack of cooperation and coordination in the work of the various institutions already established, is the crying fault. For instance, in Blockley, the largest municipal hospital and almshouse, an attempt is made to take care of all sorts of patients, from the infant with summer-complaint to violently insane adults, and the overcrowding is such that five thousand patients are housed on about five acres of ground. The committee has been making a thorough study of the situation, and recommendations are made by the different subcommittees for the temporary and permanent improvement of conditions. The outspoken manner in which conditions are described and pictured and the blunders and mistakes of judgment of former administrations pointed out is refreshing in a public document. Many of the criticisms would undoubtedly apply with equal force to the management of public charities in every city in the land.

PROTECTION AGAINST THE DEADLY BICHLORID

The dangers in the indiscriminate sale and use of mercuric chlorid (corrosive sublimate) tablets have been shown, or referred to, many times in The Journal. Attention has also been called to the dangers of popularizing these tablets by selling them under catchy or inferentially misleading names, such as "Clover Antiseptic Tablets." Each of these innocently named tablets contain seven and one-half grains of mercuric chlorid. The *Practical Druggist* discusses the same problem and refers to the provisions that are made in some more paternalistic countries for the protection of the public. The mercuric chlorid pastilles of the German Pharmacopeia consist of equal parts of mercuric chlorid and sodium chlorid. That pharmacopeia declares that the pastilles must be colored bright red with anilin dye, have a cylindrical shape and be twice as long as thick. Further, in display type, the proviso is made that "bichlorid tablets must be dispensed in glass bottles and must be labeled 'poison.'" Each tablet must be wrapped in black paper, each paper must contain in white letters the word "poison," and the weight of mercuric chlorid must be stated. Besides giving directions to protect them from light and moisture it is specified that they should be kept under lock and key. The German Pharmacopeia is a government-owned pharmacopeia, and the protection it gives the public in this specific instance is a good argument for the governmental control of such publications. Theoretically, the United States Pharmacopeia should be a work potent for much good; but unfortunately its preparation—at least in recent years—has been dominated by the commercial pharmaceutical interests to such an extent that neither the interests nor the wishes of the public or the medical profession have received much consideration. The *Practical Druggist* suggests editorially that each state should adopt stringent laws to regulate the sale of bichlorid tablets; but it would seem much simpler and more effective if steps could be taken to insure in future revisions of the Pharmacopeia greater efforts for conserving the health and welfare of the public.

The Future of Preventive Medicine.—Preventive medicine is capable, in the future, of doing away with poverty and misery, of remedying industrial disputes and of contributing to the cause of international peace. . . . It is capable of removing those causes of human misery, poverty and sorrow which lead to internal rebellion and disorder and, among nations, to war and strife. . . . We are going to get, through preventive medicine, relief from the frictions which arise out of immigration among the leading nations of the world.—Charles W. Eliot.

Medical News

ARKANSAS

State Society Meeting.—The annual meeting of the Arkansas Society will be held in Little Rock, May 20-23.

State Board Election.—At the annual meeting of the State Board of Health held in Little Rock, March 20, Dr. Morgan Smith, Little Rock, was elected secretary.

Society Meets in New Quarters.—The Pulaski County Medical Society held its February meeting in the new quarters tendered it by the Little Rock Public Library. The library has also arranged to house the medical library left by the will of Dr. W. E. Green to the society.

District Society Election.—At the annual meeting of the Tenth Councilor District Society, which includes the seven northwestern counties of the state, held in Rogers, March 18, Dr. J. L. Smiley, Siloam Springs, was elected president and Dr. J. A. Fergus, Rogers, secretary.

CALIFORNIA

Wiley in Los Angeles.—Dr. Harvey W. Wiley lectured at the Temple Auditorium, Los Angeles, March 28, on "Public Health, Our Greatest National Asset."

State Society Meeting.—The annual meeting of the Medical Society of the State of California will be held in Oakland, April, 15-17. One of the features of the entertainment to be provided will be an automobile trip through Oakland and adjoining cities.

Sanatorium News.—The tuberculosis sanatorium erected by the Independent Order of Foresters of Lopez Canon, near Mulholland, was dedicated with appropriate ceremonies, March 15. The sanatorium will accommodate forty patients, is erected on the cottage plan and the buildings are arranged in a semicircle.——Mrs. Hattie M. Holmes, Watsonville, is making arrangements for the construction of a building in Patterson to be used as a general hospital and to cost about $3,500.

COLORADO

Free Antityphoid Vaccination.—The health commissioner of Denver announces that he is prepared to give free antityphoid inoculation to all applicants.

Tuberculosis Communicable.—The state legislature has declared tuberculosis to be a communicable disease and requires that reports of cases of tuberculosis be made by the attending physician to the local board of health.

Tuberculosis Hospital for Denver.—The Board of Charities and Corrections of Denver has planned a city tuberculosis hospital to cost about $15.000, to take the place of the old tuberculosis ward at the Denver City and County Hospital.

New Officers.—Freemont County Medical Society at Florence: president, Dr. V. A. Hutton, Florence; secretary, Dr. W. T. Little, Canon City.——Northeast Colorado Medical Society in Sterling: president, Dr. Cook, Julesburg; secretary-treasurer, Dr. Barney, Sterling.

State Board Appointments.—The governor has nominated Dr. L. G. Crosby, Ouray, Mr. A. W. Scott, a druggist of Fort Collins, and Mr. H. J. Merriweather a sanitary engineer of Denver, as members of the Board of Health to succeed Drs. C. S. Morrison, Colorado City, and W. C. K. Berlin and James Rae Arneill, both of Denver.

CONNECTICUT

Alumni Election.—At the semiannual meeting of the St. Francis Hospital Alumni Association, Hartford, Dr. Joseph P. Ryan, Hartford, was elected president; Dr James Rooney, Hartford, vice-president; Dr. George W. Dunn, New Britain, secretary, and Dr. Thomas Herr, Waterbury, treasurer.

Sanatorium to be Enlarged.—An appropriation of $30,000 for new buildings at the Hartford County Tuberculosis Sanatorium was passed by the legislature. This will increase the capacity of the institution from forty-three to seventy-five and will permit of the erection of some rooms, a cottage for servants, a cottage for the superintendent and a dining-room for nurses.

ILLINOIS

Sanatorium for La Salle County.—The board of supervisors of La Salle County have adopted plans for a tuberculosis sanatorium to be erected at the county farm to accommodate ten patients and to cost not more than $2,400.

Personal.—Dr. Wilbur W. McCleary, Chicago, who was operated on for inguinal hernia at St. Bernard's Hospital, March 19, is reported to be convalescent.——Dr. and Mrs. O. D. Holland, Streator, have returned from Europe.

Home for Epileptics Endorsed.—Members of the Evanston Woman's Club have approved the plan urged by Illinois club women to erect a home for epileptics. It is suggested that the building be erected in a white pine grove, near Galena.

Memorial to Indianapolis Physician.—The Woman's Medical Club of Chicago gave a professional tea as a memorial benefit to Dr. Helene Knabe, at the Hotel La Salle, March 29, at which Dr. Lillian Crockett-Lowder, Indianapolis, was the guest of honor.

Ask for Woman Physician on Board of Education.—The Chicago Woman's Club, at the suggestion of the Woman's City Club, has sent a resolution to the mayor asking the appointment of another woman on the board of education, and urging that a woman physician be appointed.

Physicians Acquitted.—In the case in which action for damages of $10,000 was brought against Drs. Charles E. Hill and Ato C. Housh, East St. Louis, on account of the death of a boy under chloroform anesthesia while being operated on for phymosis, a verdict has been rendered in favor of the defendants. It was shown in the trial that chloroform is recognized as the anesthetic of choice in children, and that deaths during any operation, no matter how simple, are a part of the risk which the patient must assume, if ordinary care and skill be given.

The New Cook County Hospital.—The Cook County board has appointed a committee consisting of Drs. William L. Baum, Henry B. Favill, John A. Hornsby, A. J. Ochsner and Mr. L. R. Curtis, superintendent of St. Luke's Hospital, Chicago, to investigate the plans for the new Cook County Hospital and suggest changes. Changes were suggested by the committee which consist of the elimination of unnecessary fixtures and the addition of facilities for more patients, these changes effecting a decrease in cost of half a million dollars. The committee objected to the use of 20 per cent. of the total space in the building for the housing of interns and other employees.

KENTUCKY

Fresh Air School Opens.—The first open-air school in Kentucky for tuberculous children was opened in Lexington on the roof of the new Lincoln school building, March 17.

Hospital Notes.—The Winchester City Hospital committee has purchased a site for its proposed hospital for $3,000.——At Henderson, arrangements are being made for the purchase of the old high school building for $3,000 to be used as the city hospital and the present hospital is to be fitted up for tuberculosis patients.

Personal.—Dr. Arthur T. McCormack, Bowling Green, is in Rochester, Minn., where he took Mrs. McCormack for an operation from which she is slowly recovering.——Dr. Henry C. Kehoe, Flemingsburg, has been appointed superintendent of the State Institute for the Feeble-Minded, vice Dr. G. W. Armes, Frankfort, resigned.

MARYLAND

Expense of Small-Pox Epidemic.—The total expense of the recent small-pox epidemic in Allegany County is said to have been $8,000.

To Celebrate Sixtieth Anniversary.—The trustees of the Sheppard and Enoch Pratt Hospital, Towson, are planning to celebrate the sixtieth anniversary of the granting of the charter for the institution. It is expected that the celebration will be held either just before or just after the meeting of the Congress of American Physicians in Washington. The hospital was incorporated in 1853, Moses Sheppard the founder, being the first president of the board of trustees, but the institution has been receiving patients for only twenty-one years.

Baltimore

Personal.—Dr. Henry Barton Jacobs has been reelected president of the Society of Colonial Wars.——Dr. Andrew C. Gillis, superintendent of Mercy Hospital, has resigned and will leave Baltimore for Germany, April 9.

Royal Society Honors Physicians.—Drs. William H. Welch and Dr Eugene F Cordell, Baltimore, and Col. William D. McCaw, M C., U. S. A., librarian of the Surgeon-General's Library, Washington, have been elected honorary members of the Royal Society of Medicine, London, in the Section of History of Medicine.

MINNESOTA

Inebriate Farm Saved.—The legislature at its session, March 26, voted down by a vote of 48 to 24, the W. T. Stone bill which sought to abolish the State Inebriate Farm, Willmar, and convert it into a state sanatorium for tuberculosis.

Leprosy Suspect.—A case has recently been reported to the health department of Minneapolis by Dr. Th. Thoresen, who declares the ailment leprosy and its diagnosis is concurred in by Dr. J. Hvoslef. The attending physician, however, does not agree with this diagnosis and a conference of physicians is to be called to decide the matter.——The City Health Commissioner, on March 20, concurred in the diagnosis of leprosy, and expressed his belief that the case is less a menace to public health than is a case of tuberculosis.

NEBRASKA

The Cyclone in Omaha.—In the path of the recent cyclone in Omaha were the houses of Drs. D. C. Bryant, J. C. Bishop, Howard B. Hamilton, C. T. Needham and H. L. Arnold. These houses were wholly destroyed. The houses of many other physicians were damaged by the cyclone, but no fire occurred in the house of any physician nor was a member of a physician's family seriously hurt. One or two physicians received minor injuries. In no case were the doctors deterred from active service in aiding the injured. Physicians, nurses and hospitals worked in concord for relief of the suffering, irrespective of financial or social standing.——The medical section of the University of Nebraska which has its building at Forty-Second and Harney Streets, Omaha, directly in the path of the recent cyclone, escaped with damages estimated not to exceed $1,000. The building was badly rocked, water, sewer and gas pipes and many windows were broken.

NEW YORK

Library Open to All Physicians.—A circular letter has been sent to all physicians of Buffalo inviting them to use the University of Buffalo Library which contains about 9,000 medical volumes and receive regularly about 130 English and foreign medical periodicals.

Senate Confirms Nominations.—The senate has confirmed Governor Sulzer's reappointment of William Rhinelander Stewart, Dr. Stephen Smith and Hermann Ridder of New York as members of the State Board of Charities. The appointment of Dr. J. Richard Kevin of Brooklyn as a member of the State Board of Charities was also confirmed.

Personal.—Dr. F. M. Meader, city bacteriologist of Syracuse, has been given an indefinite leave of absence that he may undertake studies in preventive medicine.——Dr. F. W. Lister has been elected president of the Seneca Falls Antituberculosis Society and Dr. Robert Knight, treasurer.——Dr. George H. Fox has been appointed assistant physician and Dr. S. B. Blakely assistant surgeon of the Binghamton City Hospital.

New York City

Campaign for Hospital.—On April 2 a campaign was inaugurated to raise $160,000 to equip the new St. Anthony's Hospital, Brooklyn.

New Clinical Building.—Plans have been filed for a six-story building to be known as the Hospital of Deformities and Joint Diseases, to be erected at a cost of $90,000 on One Hundred and Twenty-Eighth Street near Madison Avenue.

Personal.—Dr. G. K. W. Schenck has been elected president and Drs. F. P. Hatfield, A. Goldberg and E. L. Friedman, members of the medical board of Rockaway Beach Hospital.——Dr. Edward Carter Perkins at the completion of his service in St. Luke's Hospital will start for Kukiang, China, where he has purchased a site and has arranged for the erection and maintenance of a hospital.

To Kill the Mosquito.—Health Commissioner Lederle recently appeared before the finance committee of the board of aldermen and asked for an issue of special revenue bonds of $66,400 with which to fight the mosquito in all the boroughs of the Greater City. Brooklyn citizens have agreed to raise $25,000 toward the campaign provided New York will contribute a like sum. The committee will hold a public hearing before acting on the request.

Health Department Destroys Much Food.—According to the figures given out by the health commissioner, the nineteen food inspectors of the Department of Health condemned and destroyed 23,950,321 pounds of foodstuffs during the year 1912. In commenting on this loss of food Dr. Lederle points out that it is a factor in the high cost of living and recommends a central board of control which would regulate the quantity of material to be shipped to any one city at a given time. He also points out that the prohibition against the sale of skimmed milk and butterine is economically absurd and unscientific.

Protests Against Report of Venereal Diseases.—The Medical Society of the Borough of the Bronx at its meeting February 12, entered a protest against the recent order of the Health Department to certain hospitals in the city requiring these institutions to record with the department, the names and addresses of all persons suffering from venereal diseases, and if possible the names and addresses of all persons supposed to be sources of infection. The reasons assigned are: that venereal diseases are regarded as a reproach and stigma and knowledge of such cases is confidential and privileged; that the continued reporting of such cases in this way will cause blackmail and divorce suits; that statistics will not be improved; that all diagnoses in such cases are not correct; and furthermore, the society believes that prevention will not result from this order, for the poor man will either go untreated or treat himself, or will fall into the hands of the advertising quack and will carry on the deadly, work of communicating to others his disease.

PENNSYLVANIA

Hospital Addition Needed.—Although the addition to the Miners' Hospital, Spangler, was opened in February, the institution is already overcrowded and plans have been set on foot for the building of a new extension.

Philadelphia

New Officers.—Jefferson Hospital Clinical Society, March 2: president, Dr. Francis T. Stewart; secretary, Dr. Elmer H. Funk.

Personal.—Dr. L. C. Peter has been elected ophthalmologist to the Rush Hospital for Consumption and Allied Diseases, vice Dr. Wendell Reber, resigned.——Dr. Edward A. Spitzka, director of the Baugh Institute of Anatomy, is suffering from a general nervous breakdown and has gone abroad to recuperate.

Alumni Dinner.—The annual meeting and dinner of the Society of the Alumni of the Medical Department of the University of Pennsylvania will be held in the Bellevue-Stratford, April 18. Among the speakers are Drs. S. Weir Mitchell, Richard C. Cabot, Boston, Lewis H. Taylor, Wilkes-Barre and John G. Clark. Dr. William Pepper will act as toastmaster.

Suggests College Merger.—Dr. Henry W. Cattell in a public letter, proposes to bring the University of Pennsylvania under the direct control of the state legislature and of the councils of the first and second-class cities and to devote an annual appropriation for administration purposes; to compel the union of certain medical schools and hospitals by not granting state aid to them unless they merge within a specified time; to cause the managers of hospitals under private management and receiving state aid, to keep their books so as to permit the auditing committee to pay over the per capita allowance for the care of each poor patient treated, and to forbid, with penalty of fine, the receipt of medical attention from hospitals receiving state aid, by those able to pay for such services.

WISCONSIN

Contracts Awarded.—The Racine Board of Health has awarded the contract for the municipal isolation hospital at Gatliff for $39,055.——The Eau Claire County Sanatorium Tuberculosis Committee has awarded the contract for the construction of the building for $15,075.

Personal.—Dr. Herbert W. Powers, formerly of the Kenilworth (Ill.) Sanitarium, has been appointed senior physician at the Milwaukee Sanatorium, Wauwatosa.——Dr. E. C. Grosskopf, Milwaukee, has been appointed a member of the board of trustees of the Milwaukee Hospital for the Insane.——Dr. Alfred H. C. Carthaus, surgeon at the Milwaukee Soldiers' Home. has been transferred to the Soldiers' Home at Togus, Maine.——Dr. George H. Scheer, Sheboygan, has been commissioned first lieutenant, M. C., N. G., Wis.——Dr. Sara Elliott, Waukesha, has gone South on account of ill health.——Dr. A. P. Andrus, Ashland, a member of the police and fire commission, has resigned to accept the position of health commissioner.——Dr. John M. Kelley, Cato, has been appointed attending physician at the Manatowoc County Tuberculosis Sanatorium, Whitelaw.——Major E. H. Grannis, M. C., N. G., Wis., has been appointed surgeon-general.

WYOMING

Nurses' Home at Sheridan.—A bill appropriating $15,000 for a nurses' home at Sheridan has been passed by the legislature and approved by the governor.

State Board Organized.—The State Board of Medical Examiners met for organization at Cheyenne, March 7, and elected Dr. C. D. Stafford, Kemmerer, president; Dr. J. G. Cogswell, Riverton, vice-president, and Dr. John B. Tyrrell, Laramie, secretary and executive officer.

GENERAL

Antimalaria Congress.—The first antimalaria congress is to be held in St. Louis, April 10-12. It will convene as a section of the International Drainage Congress.

Surgeons Meet in New Orleans.—The Society of Clinical Surgery held its twentieth annual meeting in New Orleans, March 21-22. At the clinic held by Dr. Rudolph Matas, at the Charity Hospital, his treatment of neuralgia by the injection of alcohol under the nerve ganglions at the base of the skull, was presented and demonstrated. Clinics were held at the various hospitals of the city and at the close of the meeting a luncheon was given by Dr. Matas and the local surgeons' committee of the society at the Boston Club. The society was also entertained at luncheon by the medical staff of Tulane University.

Bequests and Donations.—The following bequests and donations have been announced:

New York University and Bellevue Hospital Dispensary, $25,000 for the endowment fund by the will of Maria G. Taylor.

Methodist Hospital, Philadelphia, and St. Luke's Hospital, South Bethlehem, Pa., each $21,000 by the will of John Fritz of Bethlehem.

Southside Hospital, Pittsburgh, a large sum by the will of Martha Schweitzer.

Abington (Pa.) General Hospital, $22,200 subscribed by pledge to the building fund.

Syracuse (N. Y.) Hospital for Women, $10,000, by the will of Maud D. Smith to endow a room in memory of her parents.

Reading (Pa.) Hospital, $10,000 by the will of James H. Sternberg.

St. Luke's Hospital, contingent trust funds of $125,000 and $30,000; Cromans Hospital, New York City, $25,000 by the will of S. F. Thompson.

University of Pennsylvania Hospital, General Hospital and Jefferson Medical Hospital, each $50,000 for hospital beds.

Pennsylvania Asylum for Indigent Widows and Single Women, $10,000; Pennsylvania Institute for the Deaf and Dumb, $10,000 and Hospital of the Protestant Episcopal Church, $10,000 by the will of Anne H. Carver.

National Jewish Hospital for Consumptives, Denver, $50,000 by Samuel Grabfelder, Philadelphia.

Lowell (Mass.) General Hospital, $100,000 for the erection of a hospital for the Care of Incurable Patients to be known as the Freeman Ballard Shedd Memorial Hospital, by the will of Freeman Ballard Shedd.

Robert W. Long Memorial Hospital, Indianapolis, an additional gift of $25,000 for completion and furnishing, by Dr. Robert W. Long.

The Flood Situation.—On March 27 the Secretary of the Treasury directed Surgeon-General Rupert Blue, U. S. P. H. Service, to visit the flooded districts in Ohio, to represent the department in sanitary matters, and he is now in Cincinnati accompanied by Assistant Surgeon-General William Colby Rucker. On March 26 Surgeon-General Blue ordered Surgeon Clarence W. Wille from Cleveland to Columbus, Ohio, to assist the health authorities in the flooded district and on the same day, Surgeon Julius O. Cobb and two assistants were ordered to Indianapolis for duty. He left on the morning of March 27, accompanied by Passed Assistant Surgeon Hugh de Valin and Dr. Carl Michel, intern in the Marine Hospital. Surgeon Leslie L. Lumsden is held awaiting orders at Roanoke, Va., in readiness for duty, wherever his services are needed. It is understood that the relief measures in Dayton and other Ohio cities are being handled by the War Department and the American National Red Cross, whose officers and assistants stationed at ports on the Ohio and Mississippi rivers are prepared to cope with all emergencies. Other officers are available for duty on short notice if occasion arises. The marine hospitals at Louisville, Evansville, Cairo. Memphis and New Orleans are available to care for the sick. The flood situation in southern Illinois on March 30 was so menacing that Governor Dunne ordered two companies of the National Guard and a ship's crew of the Naval Reserve to Shawneetown, and on the following day ordered the Seventh Infantry and the Chicago Division of the Naval Reserve to proceed to Cairo. Maj. Thomas J. Sullivan, M. C., accompanied the Seventh Infantry and on arrival at once installed Darnall filters for the use of the men. Assistant Surgeon Charles A Costello accompanied the Naval

Reserve. Considering the devastation caused by the floods, the destruction of systems of water supply, the contamination of water by sewage and the exposure there has been, there is very little disease in the flooded districts, but all precautions are being taken to prevent or limit typhoid and other communicable diseases. *The subject is also taken up editorially in this issue.*

Report of Public Health Service.—The annual report of the United States Public Health Service for the fiscal year 1912 summarizes its various activities. After noting the death of Surgeon-General Wyman and the appointment of Surgeon-General Blue, the report states that the corps of commissioned medical officers now numbers 138, and that there are 227 acting-assistant surgeons, 968 attendants and nurses and 123 pharmacists, pilots, engineers and other employees, making a total of 1,456. The total expenditures of the service for the year amounted to $1,226,811.88. During the year the title of the Service was changed from Public Health and Marine-Hospital Service to Public Health Service; the salaries of commissioned officers were increased to rates commensurate with those of the officers of the Army and Navy Medical Corps and the duties and functions of the service were largely increased, empowering it to "study and investigate the diseases of man and conditions influencing propagation and spread thereof, including sanitation and sewage, and the pollution, either directly or indirectly of the navigable streams and lakes of the United States." During the year 381,772 copies of various reports and bulletins were distributed containing information regarding the prevalence of preventable diseases, with copies of regulations for safeguarding public health and other pertinent information. In addition to the investigations constantly being carried on in the Hygienic Laboratory at Washington, extensive field studies were made of typhoid fever in Texas, Arkansas, Iowa, Nebraska, Virginia and Alabama; of septic sore throat in Baltimore; of trachoma in Kentucky and Wisconsin, and of many other epidemic diseases. Surveys were also made of the Missouri watershed and of the Great Lakes; epidemiologic studies of various outbreaks of poliomyelitis, meningitis, etc., were continued and researches into the etiology and the control of typhus fever, measles, Rocky Mountain spotted fever, pellagra and the prevention and eradication of hookworm disease, trachoma, cholera and other infections were made. Supervision was also maintained over the manufacture of viruses, serums, toxins and vaccins. At the leprosy investigation station, Molokai, T. H., lines of experimentation have been followed in two directions, one consisting of studies in the vaccine and serum therapy of the disease, and the other the determination of the rôle played by lice, bedbugs and fleas in its transmission. Epidemiologic studies are in progress to determine the success of segregation, and the nature of the association necessary for the spread of leprosy. An acid-fast bacillus, differing from the human lepra bacillus, has been grown at the station from cases of rat leprosy. The Hygienic Laboratory gave special aid, during the year, to the revision committee of the pharmacopeia and standard methods were prepared for the determination of boiling and melting points and solubilities. Antirabic virus was administered to 84 persons, 1,106 treatments were sent out and the heads of 94 animals were examined for rabies, with 49 positive results. The establishment of a branch laboratory at New York for the study of contagious and infectious diseases is recommended. During the year, 12,911 vessels were inspected at domestic and insular quarantine stations and foreign ports. Of these, 1,419 were fumigated or disinfected and 1,564.071 persons were inspected. The steamer *Bratton* was placed in commission during the year, equipped with the Harker fumigation apparatus for the destruction of rats. The apparatus utilizes the flue gases from furnaces and boilers for deratization. A new quarantine station has been provided at Galveston and the quarantine function at Providence, R. I., has been transferred to the national control. After an absence of six years, plague has reappeared in the Philippines. Infection was probably introduced by means of fleas on sick rats. A severe epidemic of measles also occurred in the Philippines, the infection being traceable to patients from the United States. The disease was of a severe type and caused 23 deaths out of 524 cases. Officers of the service made during the year examinations of 1,143,234 immigrants at 83 stations and of these 27,021 were certified for physical or mental defects. Throughout the year, the service operated 23 marine hospitals and maintained 125 additional relief stations where hospital and dispensary care were furnished to American merchant seamen. In these hospitals and dispensaries, 51,078 seamen received treatment and of these, 14,717 were hospital patients. There were also made 10,264 physical examinations of masters, mates and pilots, and for entrance and promotion into the various government services. The tuberculosis sanatorium of the service at Fort Stanton, N. Mex., admitted 176 patients, discharged 178 and had a mortality of 56. Of the 178 patients discharged, 20 appeared to be cured; in 57 the disease was arrested; 25 improved; 15 were discharged unimproved; 55 died; 2 were found not to have pulmonary tuberculosis, and 4 patients were readmitted. The total cost of maintenance was $115,900.29, making, with the reduction due to sale of by-products, a cost per patient per day of $1.5554. The surgeon-general requests an increase in the number of officers in the field service to meet the constant increase in demands for aid and for the enforcement of federal quarantine laws. Ample appropriations are also required to carry out the provisions of the law regarding the investigation of problems bearing on the pollution of streams, sewage disposal and pure water supply. He also asks that provision be made for the study of pellagra, Rocky-Mountain spotted fever and malaria, and emphasizes the need of a new, large, modern building for the Hygienic Laboratory.

LONDON LETTER

(From Our Regular Correspondent)

London, March 22, 1913.

Improper Use of a Medical Certificate by a Nostrum Vender

A nostrum vender in this country hit on a new device for humbugging the public which landed him in the law courts. An action was brought by Dr. Arthur Latham, a well-known authority on tuberculosis, against Stevens & Co., the venders of a "cure" for consumption, to restrain them from using a medical certificate relating to one A. G. Hodgson, or from representing that Dr. Latham had expressed any approval of their alleged "cure."

The certificate was obtained by a trick. Hodgson wrote to Dr. Latham stating that for some time he had had a bad cough; that a physician had considered him consumptive and treated him for consumption, and that consequently he was shunned by his friends and business acquaintances; that the cough had left him for twelve months, but that his friends still held aloof, and that he thought that if Dr. Latham examined him and gave him a certificate to show his friends it would be useful. Dr. Latham accordingly examined him and gave him a signed certificate to the following effect:

> I have recently examined Mr. A. G. Hodgson and come to the conclusion that he is not now suffering from consumption and is therefore not a source of danger to other people. In order to make quite certain I had his expectoration examined on two occasions and found tubercle bacilli absent. I therefore have no hesitation in saying that Mr. Hodgson cannot infect other people.

In his examination of the man's lungs, Dr. Latham found slight evidence of fibrosis, probably due to healed tuberculosis. The certificate with Dr. Latham's signature was subsequently published by Stevens & Co. in their advertisements of their "cure" for consumption, the suggestion being that they had cured Hodgson. Of course the object was to give the public the impression that the treatment was countenanced by an eminent specialist. It was admitted that Stevens & Co. paid the fees for the examination of Hodgson and for the certificate. They asserted that they cured Hodgson and denied that the advertisement conveyed the suggestion that Dr. Latham certified Hodgson's condition as being the result of their treatment. Their intention was merely to show that Hodgson was free from consumption at the date when he was seen by the plaintiff. They submitted to the injunction, however, and were ordered by the judge to pay the costs. It may be remembered that in consequence of the attack made on Stevens & Co. in "Secret Remedies" the firm brought an action against the British Medical Association, and that the jury could not agree to a verdict (The Journal, Dec. 14, 1912, p. 2166).

A Campaign Against Flies

A national campaign against flies, which will be begun during National Health Week, April 6 to April 12, is being organized, and it is estimated that five million people will take part in it. From eighty thousand to a million volunteer workers will distribute literature showing the evils wrought by the house-fly. The object is to exterminate the fly, chiefly by the removal and destruction of the garbage on which it feeds.

Bequest to the Liverpool School of Tropical Medicine by Sir Alfred Jones

During his life Sir Alfred Jones, a Liverpool ship-owner, was the main supporter of the Liverpool School of Tropical Medicine, to which he made princely donations. He paid the expense of the large number of expeditions to tropical lands for the investigation of disease on the spot which have from time to time been described in THE JOURNAL, and placed his ships freely at the disposal of the school. By his will he has left the school a bequest of $400,000. The effect will be to give a tremendous impetus to the development of the school and will enable its work to be carried on unhampered for some years. At present the school suffers from the inconvenience that its laboratories at the Liverpool University are situated two miles from the Royal Southern Hospital, where the cases of tropical disease are treated. Owing to the discovery of new diseases and the necessity for the closest personal inspection, the needs of the school have outgrown its bounds. The present munificent bequest will enable wards, laboratories and a museum to be erected near the university, the headquarters of the school. The work of the school is world-wide, and almost covers all recent progress in tropical medicine. Four chairs have been established in the university—tropical medicine, entomology, parasitology and tropical sanitation. The chair of parasitology is at present vacant; the others are held by Newstead, Stevens and Sir Ronald Ross. An expedition of the school is now returning from the investigation of vomiting-sickness in Jamaica. On its return it will be sent to Africa to investigate yellow fever.

Impersonation of a Dead Physician

A man named Harry Virtue has been sentenced to nine months' imprisonment for giving false death-certificates. Only a registered physician is entitled to give a death-certificate, and when he does so he has to declare that he is such. On the other hand, any one can practice medicine provided he does not represent himself to be a qualified physician. In the present case the prisoner was acquainted with the late Richard Henry Barber, L.R.C.P., who was drowned accidentally in 1904 at Portland, Ore. The General Medical Council (which keeps the Medical Register), was not aware of his death, and in 1906 and at subsequent dates received requests from the prisoner for changing Dr. Barber's address to Liverpool and other places. The prisoner was born at Manchester, and after working as a grocer and butcher went to the United States, where he appears to have studied veterinary surgery.

Failure of Action for Negligence Against a Well-Known Surgeon

An action for negligence was brought against Charles Leedham-Green, the well-known Birmingham surgeon, under the following circumstances: He removed a wart from a woman's thumb. After the operation the thumb became gangrenous and had to be amputated. It was alleged that the gangrene was due to the driving of blood from the arm by bandages and the excessive use of the freezing-mixture. Leedham-Green denied that rubber bandages were applied to the patient's arm and said that the freezing-mixture was applied only for a few seconds in order to deaden the prick of the needle used in injecting the anesthetic. He found later that the patient suffered from a bad circulation in the extremities. Medical evidence was given to the effect that the treatment was proper, and the jury gave a verdict for the defendant.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 14, 1913.

The Physiologic Value of the Vegetarian Diet

Dr. E. Gley, professor of physiology at the Collège de France, recently delivered under the auspices of the Société scientifique d'hygiène alimentaire et d'alimentation rationnelle de l'homme an interesting lecture on vegetarianism considered from the point of view of present-day ideas on the rôle of digestion.

Physiologically it seems clear that a vegetarian diet easily furnishes all the necessary food-elements—water, mineral salts in the desired proportion, carbohydrates, the fats and proteins. It has, moreover, three great advantages which are recognized even by one of its opponents, W. Caspari: It is poor in elements giving rise to uric acid, which is an important factor in view of the prevalence of arthritis; it facilitates the disuse and still more the non-abuse of alcohol, because those who use a vegetarian diet are almost never thirsty, the water in their food supplying the organism's need for water, and because these foods do not excite thirst as do the condiments with which meats are often accompanied; and finally it is cheap.

On the other hand, according to the same authority, it appears to present three disadvantages: that of being non-stimulating, that of presenting too great a volume, being cumbrous for the digestive tube and that of not being rich enough in proteins. According to Gley these disadvantages are perhaps more apparent than real. The lack of stimulating substances does not appear to him a great evil. Civilized persons are only too often tempted to abuse stimulants. Moreover, the volume of the foodstuffs would be excessive only if one ate solely cabbages, potatoes and similar vegetables, but not if one uses a diet rich in cereals and in dried fruits. In fact, the vegetarian diet is now used to a sufficiently wide extent to render it possible to collate scientifically made observations showing how far it is compatible with the integrity of all functions in a fully developed life. The experiments of Mdlles. Joteyko and Kipiani, made on forty-three vegetarians of Brussels (students, professors, merchants, employees, artisans, society women and housekeepers) have shown that vegetarians can work two or three times longer than meat-eaters before reaching exhaustion, and that the work of vegetarians is much more productive. The repair of fatigue is also more rapidly effected in vegetarians: two minutes' rest suffices to enable them to recuperate their forces.

But while recognizing that vegetable foods suffice for the normal maintenance of life and for the integral accomplishment of all organic functions, Gley believes that in the present stage of our knowledge, physiologists are compelled to recognize an important difference between the two diets, vegetarian and mixed. This difference has reference to their value from the point of view of the digestive utilization of foods, especially protein foods. It is not a question here of the respective digestibility of vegetable or animal substances. This question, already old, may be considered settled. It is a question of the nutritive value of animal proteins with proteins suitably selected. The work of digestion is accomplished according to the law of economy of labor, to which the organism always tends in its functions, and the application of which is at once advantageous and inexpensive for it. Since the organism is obliged to reconstruct its specific albumins with foreign albumins, this operation will be carried on at a loss in proportion to the difference in composition between the albumins of the food and the specific albumin of the organism. Now there is a considerable difference between vegetable albumins and animal albumins. If, on the other hand, one gives an animal the same albumin as that of its own tissues to build up into its own substance out of the elementary fragments, it is probable that the unutilized part of these fragments, the loss, will be minimum or nil. On this is founded the hypothesis of Magnus-Levy that protein assimilation can be effected in the physiologically least expensive way by feeding animals on the flesh of those closely related to them. Magnus-Levy remarks that at the beginning of their development the highest animals in the series, mammals and birds, use in fact only the albumins of their own species, the first in the form of milk, the second in the form of egg albumin. From the point of view of digestion, we are compelled to admit the superiority of albuminoids of animal origin. It is clear that, for man, these are the substances which are most similar to his own proteins. Magnus-Levy humorously remarks that a cannibal, that is, a creature who feeds on his own species, perhaps realizes more closely the condition of physiologically inexpensive assimilation. Recent experiments have demonstrated the sound foundation of this theory. Physiologists, to be sure, are making no attempt to rehabilitate cannibalism, but they are unable to recommend vegetarianism in place of a mixed diet in which there is place for a moderate quantity of animal proteins more closely related to their own tissues than vegetable proteins.

University Studies and the Three-Year Term of Army Service

In view of the present tense international situation, there is a serious tendency in France toward the reestablishment of the three-year term of military service. The plan, however, has aroused earnest protest, especially in university circles. Protests have been published from a group of students, on the ground that so important a military measure should not be hurried into effect without serious legislative deliberation or discussion, and from a group of professors, including Anatole France, Dr. Gley and Dr. Prenant, who believe that the project would seriously "affect the economical and intellectual life of the country and may even cause retrogression of French civilization." The proposed law provides that medical students who have completed three years of study and who have successfully passed at the end of their first year of service the examination for auxiliary physicians, shall be appointed to that post and shall complete their second and third years of service as auxiliary physicians. The objection to this is that a year is much too long for the preparation of th [illegible] year str [illegible] or the examination of auxiliary physicians. From four to eight weeks well utilized would be ample. How should the remaining ten or eleven months of the year be employed? In the military instruction of students? But this is useless for physicians who will never be combatants. In a term of service as nurses? This is useless if not harmful, for such service in subordinate capacity is rather calculated to diminish the moral authority so necessary to the physician. Dr. Lepaitre, general secretary of the Union des Syndicats médicaux, suggests that medical students should be attached to the present military hospitals. There during a year they would act as externs and interns, perfecting themselves at the same time in general medicine and learning the details of military medicine. At the end of the first year competitive examination would enable them to be assigned the grades of auxiliary physicians and of reservists, respectively. It is to be feared also that this three years' service may give advantages in various civil competitive examinations to foreign students and to native students not subject to military service. Professor Calmette of Lille in the *Bulletin médical* asks whether women medical students ought not to be compelled before passing their doctorate theses or the examinations for hospital extern or intern to pass three years of service as nurses in the military hospitals.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 14, 1913.

Personal

It is reported that Professor Czerny of Heidelberg will give up next year the direction of the institute for cancer research, which was founded by him.

Medical Expert Member of City Council in Berlin

As the result of the persistent efforts of the Berlin medical profession, the municipal authorities have established the office of municipal medical councilor (Stadt-Medizinalrat), and out of forty candidates have chosen Professor Weber, director of the Imperial Bureau of Hygiene, for this position. Weber, who is now 40 years old, was at first an army surgeon, and in 1898 was detailed to the Imperial Bureau of Hygiene. In 1904 he became a regular member of the staff of the bureau. During his official activity he produced a number of works on bacteriology; he took an especially important part in the investigations on the significance of bovine tubercle bacilli to man, which have been carried on by the Imperial Bureau of Hygiene. In 1909 he received leave of absence in order to take the position of secretary-general of the Dresden Exposition of Hygiene. He rendered such excellent service in organizing this exposition that he was appointed, after the close of it, director of the bacteriobiologic department of the Imperial Bureau of Hygiene, as successor to Professor Uhlenhuth, who was called to Strasburg. Weber was one of the delegates from Germany to the International Congress on Hygiene at Washington. On this occasion he read a report on the suppression of epidemic diseases in Germany. In view of his abilities it is expected that he will carry on the arduous duties of his office satisfactorily.

Status of Cancer Research in Germany

A few days ago the Central German Committee on Investigation and Extermination of Cancer (Deutsche Zentralkomitee zur Erforschung und Bekämpfung der Krebskrankheiten) held its annual session in Berlin, in connection with the German Provincial Committee on Investigation of Cancer (Deutsches Landeskomitee für Krebsforschung). The reports on the status of cancer research, made by Professor Orth, who was in charge of the meeting, were not encouraging. As yet nothing definite is known about the origin of cancer in man. The results of the investigations of Fibiger of Copenhagen, who produced with intestinal worms artificial cancerous tumors in rats, cannot be applied to human beings, and therefore his investigations are not of such importance as at first announced by some overenthusiastic correspondents of the lay press. These results do not deal with a direct production of cancer by a parasite, but with only one of the stimuli which have long been known to be active in the formation of epithelioma, such as chimney-sweepers' cancer and similar growths. [See Abstr. 52, p. 948.]

Orth remarked that so long as nothing definite is known concerning the etiology of cancer, our efforts to cure this disease are much handicapped. Through the latest investigations, some scientists have succeeded in curing animal cancer, especially in mice and rats; efforts to obtain the same results in man, however, have so far been negative. Under the circumstances there is nothing else to be done at present on the part of the cancer committee than to enlighten the public and physicians on this subject. The possibility of curing cancer, which at present can be done only by operation, depends on the patient's seeking medical attention as early as possible, and on the physician's skill in diagnosing, which should be so developed that he may recognize the disease in its very beginning. The secretary, George Meyer, reported on the measures taken in this direction. A considerable number of explanatory pamphlets treating of the early diagnosis were distributed.

In the provincial committee the most interesting proposition was made by the Baden delegate, von Wasiliewski of Heidelberg. He referred to the fact that, although no connection is known at present between human cancer and the corresponding tumors in domestic animals, the study of the latter diseases is interesting, scientifically, at least. He proposed making collections of animal tumors. In this connection he had made arrangements with societies for animal breeding and other similar associations to send to the Heidelberger Krebsinstitut animals with tumors, he paying the cost of such animals, which are of no use for any other purpose. In this way scientific material for comparative pathologic and therapeutic studies will be procured, and a sort of statistics as to the origin of tumors in animals will be collected, which can later probably be compared with the corresponding statistics of human beings. This subject was discussed in a lively manner. Privy-Councilor Orth recommended general adoption of such measures. Boas pointed out that certain provinces showed an especially high quota of cancer of the digestive organs, and that in the small manorial districts such cases occur sometimes with remarkable frequency. Also gamekeepers and other persons whose occupation brings them in contact with animals suffer with relative frequency from this disease, so that some relation between human cancer and animal cancer cannot be disregarded.

Home for the Berlin Medical Society

As readers of THE JOURNAL will remember, the Berliner medizinische Gesellschaft has been contemplating for several years building a meeting-house for its sessions, to be dedicated to Rudolph Virchow, who was for many years president of the society. Two years ago the society purchased two houses, paying for these with money gained through a special collection, in the hope that the funds necessary for building might soon again be acquired. This hope, however, has not been realized. In spite of all efforts of the financial experts who are on the executive board of the society, they have failed up to the present to collect the necessary sum; and as the houses purchased do not afford any profit, but are besides a continual loss on account of their dilapidated condition, the society finds itself in an unpleasant situation. After the presentation of these conditions at the general meeting of the society a few days ago, it is expected that the necessary capital will be procured through a loan.

Catholic and Protestant Hospital Diets

An amusing story, which throws a light on the difficulties that sometimes arise in the denominational German hospitals, is reported from Augsburg. This city, which has always played an important rôle in history so far as religious disputes are concerned, has recently been facing a new war of religions in debating the question whether the municipal hospital should sustain, as heretofore, two separate kitchens for the Roman Catholic and Protestant patients, or whether meals for patients of both denominations should be prepared in one central kitchen. The nursing and boarding of the Catholics is in charge of Sisters of Mercy, and the Protestants are taken care of by the evangelical deaconesses. For economic reasons the city authorities wish to consolidate these two departments and establish a central kitchen under the direction of the Roman Catholic sisterhood. The deaconesses, however, feel that they are slighted, and fear the destruction of the amicable relations which have heretofore existed between the two denominations in the hospital. "If the central kitchen comes into effect, we shall withdraw," the deaconesses declared. Also the management of the united Protestant churches of Augsburg has seized this opportunity for announcing that peace between the two denominations will be endangered if the wish of the deaconesses is not granted. So in spite of the fact that the physicians connected with the hospital also advised the consolidation of the kitchens, the city council has decided to retain both departments, so as to avoid a serious conflict with the Protestant population of Augsburg. Consequently, there are still to be had at the hospitals of Augsburg both Catholic and Protestant dumplings.

BUDAPEST LETTER

(From Our Occasional Correspondent)

BUDAPEST, March 5, 1913.

State-Supported Medical Officers in Small Towns

Nagy-Varad (Grosswardein), a flourishing industrial center with 66,000 inhabitants, will be the first town in this country (others to follow from time to time) to establish a university extension with a policlinic for the poorer classes. The policlinic will be open for outpatients, and will be furnished with all modern equipment. The medical staff will include a specialist in clinical medicine, a neurologist, an aural surgeon, a dermatologist, a Roentgen-ray expert and a bacteriologist, who will also conduct the station for the examination of typhoid carriers. The equipment will cost about $15,000, and the medical staff will receive salaries of about $500 a year for attending one hour daily except Sundays. The policlinic will be maintained by the town, and will cost about $10,000 yearly.

The idea of the policlinic, that is to say, the university extension, originated with the chief medical officer of the town, who found that the medical treatment of the poorer classes in the town, as hitherto conducted, was not up to the level of the times. Nominally the poor people have been attended by the three district medical officers, who, being general practitioners (private practice being allowed them), could not afford adequate assistance in cases in which only a specialist could help. Thanks to the Western education of the mayor, the town council has heartily welcomed the creation of the policlinic, and the necessary amount to rent premises and to equip the institution has been voted unanimously.

The Prevention of Tuberculósis in Rural Districts

Dr. Alexander Koranyi, professor of clinical medicine in the University of Budapest, recently delivered an address on the above subject at the Congress of Hungarian Specialists in Tuberculosis. He said that from a prophylactic point of view —with special regard to the agricultural classes—the sanatoriums were not satisfactory. A patient who was severely ill—whether rich or poor—had no proper place in a sanatorium, and would never recover his health there. He also occupied the place of a patient for whom sanatorium treatment might be very useful, namely, one in the initial stage. A poor person, even if in the initial stage, derived very little benefit from sanatorium treatment. If he improved to some extent, after several months' treatment in a sanatorium his condition soon deteriorated when he returned to his insanitary home. Dr. Koranyi said that he was not opposed to sanatoriums as such, but he maintained that only patients in the initial stage, and those who could afford to live under favorable conditions after the sanatorium treatment, should avail themselves of these institutions.

From a prophylactic point of view he regarded the establishing of special tuberculosis pavilions in the general hospitals, and the creation of tuberculosis dispensaries (of which there are about twenty-five in Hungary) as of the first importance. Such institutions, however, would be of little or no benefit to villagers, who would refuse to become inmates of a hospital for a considerable period. They had not the patience necessary for this purpose, and dispensaries could not be established in villages. Dr. Koranyi said that a Danish scientist, as a result of observations made for several years on cows, found that half of them were tuberculous. This was very important, not only in connection with the health of the population but also in connection with national prosperity. The tuberculosis in the cows was evidently perpetuated from generation to generation, the calves being infected by the cows which gave them suck. The Danish scientist in order to prevent the further spread of tuberculosis among his animals had separated the infected ones from the non-infected by means of the tuberculin reaction, and the calves of the infected cows were fed either on sterilized milk or suckled by healthy cows. This experiment resulted in a decrease of the number of infected cows from 70 per cent. to 30 per cent. In this way it was possible to check the spread of tuberculosis in cows with absolute certainty.

From this fact Dr. Koranyi drew the inference that the unhealthfulness of village dwellings was aggravated by the practice of whole families living in one room. A tuberculous and expectorating member of such a family endangered those living with him under the same roof. Children were particularly predisposed to tuberculosis. According to the latest statistics in Hungary 10,000 children died yearly from tuberculosis, and many children who were carriers of Koch's bacillus became ill when grown up and died from tuberculosis. This being so, it was reasonable to separate children from parents who were suffering from manifest tuberculosis with expectoration as long as the children's health was in danger. In order that this might be made possible in the circumstances prevailing in villages, Dr. Koranyi said that one or two villages might maintain one house for this purpose. This house would require only that its windows should be wider than the usual ones and that the house should be kept scrupulously clean. Here the children might be accommodated until the danger had disappeared from their homes. He did not propose to separate a child from its parents entirely; the parents might see it from time to time, but only out of doors. Dr. Koranyi added that he had been successful in persuading several large landowners to build on their estates such special houses for children. He asserted that all the aristocracy and the clergy (who own millions of acres of land in Hungary), would in time follow the example of those above mentioned, and then tuberculosis would not make such ravages in Hungary as it does at present.

Miscellany

Conclusions Regarding Pellagra

After an extensive and intensive epidemiologic study of pellagra in the South, Assistant Surgeon R. M. Grimm (*Public Health Reports*) thus summarizes his findings:

Race: More cases were found among the whites than among the negroes.

Sex: More cases were found among the females of each race than among the males.

Age: More persons developed the disease at ages between 20 and 40 years than at other ages.

Case Mortality-Rate: The case mortality-rate is higher among the negroes than among the whites, highest among the colored females, and lowest among the white males.

Case Insanity-Rate: The case-rate of insanity incidence is higher among the negroes than among the whites, and higher among the males than among the females.

Marital Condition: Among the married and widowed pellagrins the females predominate; the single pellagrins are equally divided among the sexes.

Environment: More cases occurred under conditions of poverty than of comfort, and more under conditions of comfort than of affluence.

Location of Homes: More cases developed in persons living in small towns and villages than among those living in the rural districts.

Relation of Cases: More cases developed in the immediate vicinity of other cases than otherwise.

Food: The relationship existing between the cases of pellagra in this series and the character of the food-supply admits, at present, of no conclusion. In investigations of this character, however, this relationship demands consideration.

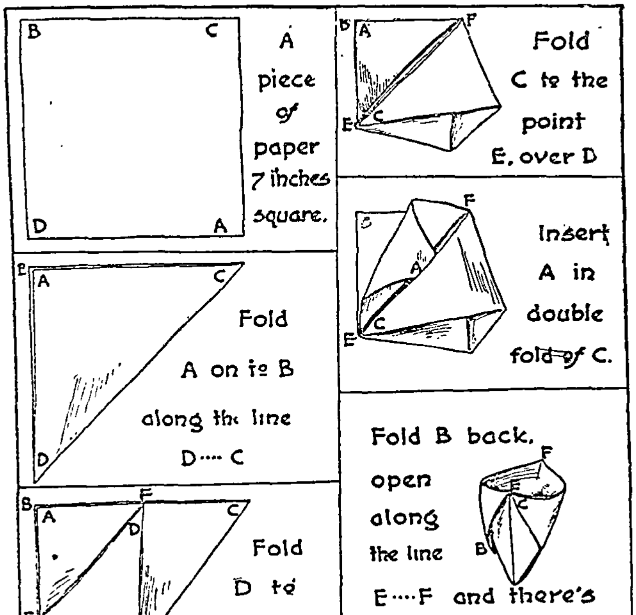
Incidence: Pellagra seems to have been on a gradual but constant increase in the districts visited, with the probable exception of the year 1912.

Prevalence: Pellagra is more prevalent than is ordinarily supposed even by the physicians practicing in pellagrous communities, and there are many persons in pellagrous communities who present symptoms of a mild pellagrous condition which do not ordinarily come to the attention of the physician on account of the mild character of these symptoms.

Since the deduction of a correct conclusion presupposes the existence of unquestionable premises, no definite conclusion regarding etiology has been drawn from the results of the work. Premises based on work in other lines seem to be necessary before such a conclusion on this point can be drawn. The possibility of some insect playing a part in the dissemination of the disease does not seem inconsistent with the facts presented above. From Grimm's observations the relationship between food and pellagra seems to be a real one, but whether the character of the food may act only in predisposing to conditions which favor the development of pellagra, or whether certain articles of food act as the real exciting agent, or whether they act only as exaggerators of the symptoms (as the sunlight, for instance), is an open question. It is possible that certain articles of food may act in all three ways. In the present state of this question no investigation of the etiology of pellagra can entirely ignore the character of the food-supply used by the people among whom the disease is prevalent.

The Value of Open-Air Schools in Fighting Tuberculosis.—S. Bernheim and H. P. Grancher estimate that about 15 per cent. of the children of school age have some form of tuberculosis. Many of these are early and curable cases. Open-air schools should be established for these and should include all thickly children and those with hereditary alcoholism or syphilis. A few such schools have been established by private initiative, and the gain in health and mental activity on the part of the children has shown them to be means of fighting tuberculosis worthy of adoption by the state. It is remarkable further that while the hours of study are shorter and much of the time is devoted to physical exercise and manual training, yet the pupils keep up in their scholastic studies with those in indoor schools, in addition to making marked gains in weight and general health. This article appeared in the *Revue Internat. de la Tuberculose*, 1912, xxii, 413.

An Improvised Individual Drinking-Cup.—This illustration of a method of making an individual drinking-cup from a square sheet of tough paper is taken from the *Health Bulletin* of the Rhode Island State Board of Health. In view of the approaching picnic and outing season, the improvised cup here shown is recommended. Any tough paper will do for temporary use. Paraffin paper is not necessary. Not all paper is sanitary, of course, but any sheet of clean paper would probably be more sanitary than a common drinking-cup.


B
C
A piece of paper 7 inches square.
D
A
B
A
F
Fold C to the point E, over D
E
C
F
B
A
Insert A in double fold of C.
E
C
E
A
C
Fold A on to B along the line D.... C
D
Fold B back, open along the line E....F and there's your sanitary DRINKING-CUP
F
E
C
B
B
F
C
A
D
Fold D to the point F on the line A C
E

The Social Influence of Impure Air.—Although we are more immediately concerned with the effects of dust on the lungs, yet the whole body, including the skin, mucous membrane, and the internal organs, suffers in due course by exposure to dust. We seldom think of the part which dust and smoke have played in indirectly shaping the social habits of a people. How to get rid of dust and fume in the factory, of smoke in the atmosphere, and of the incidence of all these on the skin and the respiratory organs of man, has formed not only the subject of many a scientific discussion, but has stimulated enterprise and encouraged manufacture. In trying to combat their begriming effects we have become a well-washed people. The dispersion of these waste products has led to the manufacture and use of soap in proportions hitherto unparalleled in the history of man, while these, again, have indirectly added to employment, wealth and health. Frequent ablution has become the rule, so that baths, a luxury in even large houses in my own country four or five decades ago, are now a necessity, for they find a place in many of the modern houses of the working classes. Dust and fume, begriming agents as they are, have therefore done something to socialize mankind, to promote public health, and to advance civilization, for those nations are leading in the path of progress to-day whose workers not only require soap and water for themselves, but who, by the factory dust and smoke they create, oblige all of us to resort to similar usage.—Sir Thomas Oliver at the *International Congress on Hygiene and Demography.*

Marriages

RICHARD DERBY, M.D., New York City, to Miss Ethel Carow Roosevelt of Oyster Bay, N. Y., April 4.

EMIL NOVAK, M.D., Baltimore, to Miss Elizabeth Grace Rogers of Brookline, Mass., March 24.

EMIL T. TOHULKA, M.D., to Miss Denna Pierson, both of Glasford, Ill., at Peoria, Ill., March 19.

WALTER ANTHONY STUHR, M.D., to Miss Gladys Caroline White, both of Chicago, April 2.

OSCAR CHARLES KLASS, M.D., to Miss Stella Watkins, both of Muskogee, Okla., March 5.

JESSE S. HIXSON, M.D., to Miss Mary Cooper, both of San Angelo, Tex., March 17.

Deaths

Algernon Thomas Bristow, M.D. College of Physicians and Surgeons, New York City, 1876; a member of the American Medical Association; American Academy of Medicine, and American Surgical Association; once vice-president of the New York Academy of Medicine; editor of the *New York State Journal of Medicine*; clinical professor of surgery in the Long Island College Hospital, Brooklyn; consulting surgeon to St. John's Long Island College, Long Island State, Swedish, Coney Island and Bushwick hospitals; representative of the Medical Society of the State of New York in the House of Delegates of the American Medical Association continuously since 1906 except at the 1908 annual session; chairman of the committee of the American Medical Association to inquire of the British Medical Association whether or not a joint meeting of these two organizations is desirable and possible; a prolific writer, and always an active worker for the betterment of the profession and higher ideals in medicine and surgery; died at his home in Brooklyn, March 26, aged 61, from septicemia, the result of a prick of the finger while operating, two weeks before.

James A. Egan, M.D., since 1897 secretary of the Illinois State Board of Health; died at his home in Springfield, March 30, from nephritis, aged 53. Dr. Egan was a native of Massachusetts and came to Chicago in 1887. He was graduated from Northwestern University Medical School in 1893. For four years after his graduation he was attached in various positions to the department of health of Chicago. After four years as secretary of the State Board of Health he was appointed a member of the board and later was made its treasurer and executive officer. He was a first lieutenant M. R. C., U. S. Army, and a member of the American Medical Association, Association of Military Surgeons of the United States and American Public Health Association. Dr. Egan was aggressive as a public health official and during his incumbency of sixteen years took legal measures against many diploma mills and illegal practitioners. While a man of strong likes and prejudices, he was stalwart and steadfast in his friendship and his death will be deplored by his many friends in and out of the profession.

Sylvester Emory Strong, M.D. New York University, New York City, 1862; founder in 1864 and proprietor of a sanitorium in Saratoga Springs, N. Y., which is known by his name; surgeon of volunteers and acting medical director of the Army of the Cumberland during the Civil War; a member of the American Medical Association; died at his home in Saratoga Springs, N. Y., March 17, aged 75.

John W. Reifel, M.D. University of Texas, Galveston, 1903; of El Paso; for a time a patient at the United States Public Health Service Sanatorium, Fort Stanton, N. Mex.; later superintendent of a sanatorium at Alamagordo, N. Mex., and for a year thereafter state quarantine officer at El Paso; died at the home of his brother in Grand View, El Paso, March 11, from tuberculosis, aged 34.

John Fitz Herbert Sugg, M.D. Rush Medical College, 1880; a member of the American Medical Association; sometime president of the district and Clinton County medical associations; a much-esteemed practitioner of Iowa; founder of the first newspaper in Carroll, known as the *Western Herald*; died at his home in Clinton, March 21, aged 66.

Malcolm Toland Sime, M.D. College of Physicians and Surgeons, New York City, 1895; for ten years a member of the visiting staff of the Woman's Hospital, Philadelphia; formerly assistant surgeon, N. G. Pa., assigned Sixth Infantry; for the last two years a resident of New York City; died in St. Joseph's Hospital, March 3.

John Alfred Hayes, M.D. Dartmouth Medical School, Hanover, N. H., 1862; a member of the New Hampshire Medical Society; surgeon of the Eleventh New Hampshire Infantry throughout the Civil War and brevetted lieutenant-colonel for meritorious service; died at his home in Somersworth, March 21, aged 73.

Frederic Clift, M.D. Keokuk (Ia.) Medical College, 1891; a member of the Utah State Medical Association and secretary of the Davis County Medical Association; for six years assistant to the medical director of the State Mental Hospital; editor of the *Utah Medical Journal*; died at his home in Kaysville, March 28, from pneumonia, aged 65.

Frank Abraham McMahon, M.D. University of California, San Francisco, 1897; surgeon of volunteers during the Spanish-American War, with service in the Philippine Islands and later chief surgeon of the Veterans' Home, Napa County, Cal.; died at his home in Fresno, March 3, aged 45.

Robert Hamilton Campbell, M.D. University of Maryland, Baltimore, 1889; formerly of Rockville, Md.; for two years a medical missionary in China and for three years a resident of Yokohoma, Japan; died at his home in New Orleans, March 17, from typhoid, aged 44.

Lorenzo Waite, M.D. Berkshire Medical College, Pittsfield, Mass., 1854; a practitioner of Berkshire County for fifty-eight years; said to have been the oldest graduate of Berkshire Medical College; died at his home in Pittsfield, March 18, from senile debility, aged 84.

Justus Morris Brown, M.D. University of Pennsylvania, Philadelphia, 1862; Brigadier-General, U. S. Army, retired; assistant surgeon during the Civil War; died at his home in Hackensack, N. J., recently, from cerebral hemorrhage, aged 72.

John Clear, M.D. Kentucky School of Medicine, Louisville, 1885; a member of the Tennessee State Medical Association; of Clinton; died in the Lincoln Memorial Hospital, Knoxville, March 23, from cerebral hemorrhage, aged 57.

Lancelot M. Ardiel, M.D. Western University, London, Ont., 1891; of Avoca, Mich.; a member of the American Medical Association; died at the home of his brother-in-law in London, Ont., March 19, from heart disease, aged 45.

Edward Pardee Bucke, M.D. Western University, London, Ont., 1899; assistant lecturer on diseases of the eye, ear, nose and throat in his alma mater; died at his home in London, February 15, from pneumonia, aged 37.

Gustave A. Zimmerman, M.D. University of Pennsylvania, Philadelphia, 1878; a practitioner of Johnstown, Pa.; died in the Presbyterian Hospital, Albuquerque, N. Mex., March 14, from tuberculosis, aged 63.

Ulysses S. Durham, M.D. St. Louis College of Physicians and Surgeons, 1890; a member of the American Medical Association; of Cairo, Mo.; died in the Woodland Hospital, Moberly, Mo., March 17, aged 47.

Theodore Lincoln Hatch, M.D. University of Michigan, Ann Arbor, 1871; a member of the Minnesota State Medical Association; died at his home in Owatonna, March 11, from heart disease, aged 65.

James L. Hendricks, M.D. Cincinnati College of Medicine and Surgery, 1891; for one term coroner of Boone County, Ind.; died at his home in Lebanon, March 14, from cerebral hemorrhage, aged 67.

Ernst Hildebrandt, M.D. Royal Christian-Albrechts University, Kiel, Germany, 1849; a member of the Minnesota State Medical Association; died at his home in Forest City, about March 17.

Augustus Meek Duncan, M.D. University of Alabama, Mobile, 1874; for many years a practitioner of West Green, Ala.; died at the home of his niece in Birmingham, March 15, aged 66.

Edward Elward Kitchen, M.D. Toronto School of Medicine, 1865; formerly chairman of the Provincial Board of Health of Ontario; died at his home in St. George, February 19, aged 66.

Theodore L. Wiegers, M.D. St. Louis College of Physicians and Surgeons, 1904; a member of the American Medical Association; died at his home in Wentzville, Mo., March 3, aged 34.

Robert Preston Robinson, M.D. Trinity Medical College, Toronto, Ont., 1888; for many years a practitioner of Ottawa; died in Hyde Park Sanitarium, Toronto, January 16, aged 47.

Bruce Thomas, M.D. University of Maryland, Baltimore, 1852; of Philadelphia; formerly of Frederick, Md.; died in the American Hospital, Philadelphia, March 14, aged 80.

F. E. Guibor, M.D. Missouri Medical College, St. Louis, 1872; a member of the American Medical Association; died at his home in Maplewood, St. Louis, January, aged 61.

Miles Hall Bronson, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1861; died at his home in Lowville, N. Y., March 16, from pneumonia, aged 78.

Thomas Knowlton Marcy, M.D. College of Physicians and Surgeons, New York City, 1860; died at his home in Poquonock, Conn., March 2, aged 78.

Samuel C. Skeel, M.D. St. Louis College of Physicians and Surgeons, 1884; died at his home in St. Louis, March 15, from cirrhosis of the liver, aged 73.

James F. Flynn, M.D. Chicago Homeopathic Medical College, 1893; died at his home in Humboldt, Kan., February 1, from cerebral hemorrhage, aged 50.

Elias McKay Jenkins, M.D. University of Michigan, Ann Arbor, 1856; died at his home in Addison, about March 13, from senile debility, aged 84.

***Myra Amanda Gillette*, M.D.** Hahnemann Medical College, Chicago, 1886; died at her home in Medina, N. Y., March 13, from tuberculosis, aged 58.

Dan L. Fry, M.D. Kentucky School of Medicine, Louisville, 1889; *a practitioner and dentist of Hickory, N. C.; died at his* home, March 16, aged 49.

John L. Guill, M.D. University of Nashville, Tenn., 1856; died at his home in Mount Juliet, Tenn., March 13, from senile debility, aged 82.

William Richard Cann, M.D. University of Toronto, 1911; died at his home in Horning's Mills, Ont., January 19, from pneumonia, aged 28.

Albert Lawrence Collins, M.D. Medical College of Indiana, Indianapolis, 1883; died at his home in Long Creek, Ill., February 4, aged 52.

James Lovick Sappington, M.D. Atlanta (Ga.) Medical College, 1870; died at his home in Whitesville, Ga., about March 13, aged 63.

William I. Reese, M.D. College of Physicians and Surgeons, Baltimore, 1893; died suddenly at his home in Red Oak, Okla., February 14.

Frank Pitman Osborn, M.D. University of Missouri, Columbia, 1906; died at his home in Oakwood, Okla., January 29, aged 48.

George Albert Clark, M.D. Medical School of Maine, Brunswick, 1870; died at his home in Portland, Me., February 18, aged 66.

Reuben D. Love, M.D. Louisville (Ky.) Medical College, 1892; of Hugo, Okla.; died in Mineral Wells, Tex., March 12, aged 59.

Lucien W. McKinley, M.D. Jefferson Medical College, 1880; died at his home in Columbus, O., March 13, aged 55.

Francis Xavier Aveline (license, Indiana, 1897); died at his home in Marion, February 9, aged 55.

James D. Neel, M.D. Jefferson Medical College, 1859; died at his home near Troy, S. C., [illegible] 12.

N. Graham Shaw (lic[illegible] 89[illegible] his ho[illegible] Maysville, February 13,

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

MANOLA

Physicians as Unpaid Pedlers of Nostrums

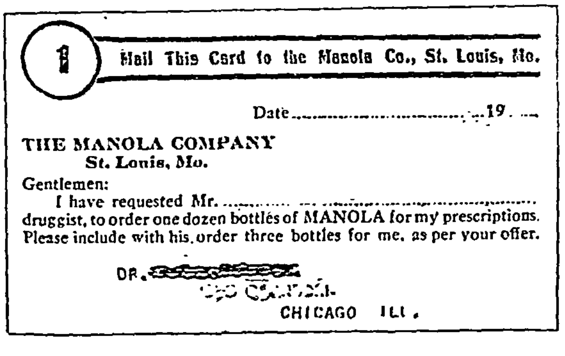
One of the most disheartening features of the fight against the proprietary evil within the profession is the slowness with which physicians awake to their responsibilities in the matter. It is a notorious fact, familiar to physician and advertising man alike, that the simplest and cheapest way to introduce a nostrum to the public is through the instrumentality of the medical profession. Ever since the birth of the proprietary evil in this country, shrewd manufacturers have persuaded doctors to act as unpaid pedlers for their wretched nostrums and to become *particeps criminis* in the exploitation of such wares.

Manola is an alcoholic nostrum with just enough more or less inert medicinal products added to exempt it from the internal revenue tax, but not enough to prevent it being used as a tipple by those who object to taking their "toddy" in a simpler form. It is prepared by the Luyties Pharmacy Company of St. Louis, a homeopathic concern whose hahnemannian leanings are not so strong but that it is willing to cater to the various sectarian schools of medicine as well as to the regular profession. Since the promoters realize, doubtless, that to put this stuff out under a homeopathic label might not be conducive to stimulating physicians' confidence, Manola is labeled: "Prepared only by the Manola Company, St. Louis." In other words, it is the old dodge of forming subsidiary companies for the purpose of hiding the identity of the real owners. In this connection, it is worth reminding our readers, incidentally, that the Walker Pharmacal Company, St. Louis, is another subsidiary concern of the Luyties Pharmacy Company, created for the purpose of pushing another nostrum—Hymosa.

Manola is seldom advertised in medical journals. Instead the Luyties Pharmacy Company has discovered a more effective method of "putting one over" on physicians and druggists. The method which has been pursued for years and which, under the same title and subtitle that head this article, was exposed in The Journal as long ago as May 6, 1905, consists in sending to physicians a letter containing three postcards—unstamped, of course. With the postcards there is a slip that reads:

> INSTRUCTION FOR OBTAINING
> 3 BOTTLES OF MANOLA FREE
>
> *Dear Doctor:* Fill out the attached cards Nos. 1 and 2. Mail No. 1 to *us* and hand Nos. 2 and 3 to *your druggist*. Impress upon him the necessity of mailing postal card No. 3 *direct* to us, and *not* to his jobber.
>
> Yours truly, THE MANOLA COMPANY.

The postcards are numbered, respectively, 1, 2 and 3. Here is No. 1:



1 Mail This Card to the Manola Co., St. Louis, Mo.

Date ....19. ...

THE MANOLA COMPANY
St. Louis, Mo.

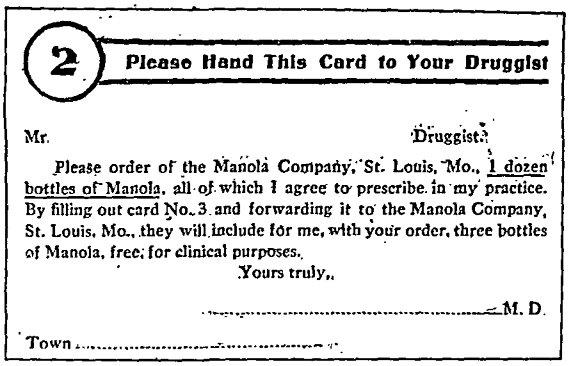
Gentlemen:

I have requested Mr. .... druggist, to order one dozen bottles of MANOLA for my prescriptions. Please include with his order three bottles for me, as per your offer.

DR. [redacted]
CHICAGO ILL.

Dr. Ezymark writes the name of his druggist on Card 1, puts a stamp on it and mails it to the Manola Company, alias Luyties Pharmacy Co

Card 2, addressed to his druggist, also is filled out by Dr. Ezymark. Here it is:



2 **Please Hand This Card to Your Druggist**

Mr. .... Druggist.

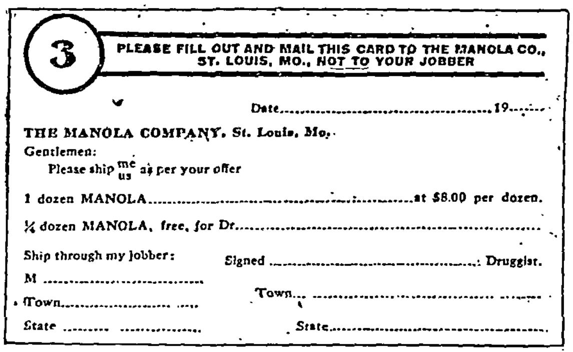
Please order of the Manola Company, St. Louis, Mo., 1 dozen bottles of Manola, all of which I agree to prescribe in my practice. By filling out card No. 3 and forwarding it to the Manola Company, St. Louis, Mo., they will include for me, with your order, three bottles of Manola, free, for clinical purposes.

Yours truly,

....M. D.

Town ....

Then the doctor, acting the part of errand-boy, delivers Card 2 and also Card 3 to his druggist. Here is Card 3:



3 **PLEASE FILL OUT AND MAIL THIS CARD TO THE MANOLA CO., ST. LOUIS, MO., NOT TO YOUR JOBBER**

Date ....19.....

THE MANOLA COMPANY, St. Louis, Mo.

Gentlemen:

Please ship $\substack{\text{me}\\\text{us}}$ as per your offer

1 dozen MANOLA ....at $8.00 per dozen.

¼ dozen MANOLA, free, for Dr. ....

Ship through my jobber:
M ....
Town ....
State ....

Signed .... Druggist.
Town ....
State ....

This, Mr. Goat, the druggist, has to fill out, affix a stamp and send to the Manola Company. In return for all this, Mr. Goat has his shelves loaded up with a dozen bottles of Manola and, for that privilege pays $8 out of his own pocket. Dr. Ezymark gets three free bottles. Incidentally, he also gets the contempt of his druggist—and of such patients as learn of it.

The only one who profits by all this is the Luyties Pharmacy Co., alias the Manola Co., alias the Walker Pharmacal Company.

Evidently this method of exploitation pays; that it does pay is a disgrace to the medical profession. To those physicians who have in the past acted as pedlers for Manola we would say: If your patients really need sherry wine let them purchase it under its own name and at the ordinary market price. You will then know what they are getting and you will be able to retain not only your own self-respect but also the respect of your druggist and the public.

THE GATLIN INSTITUTE

A physician who asks us to sign his letter X. Y. Z., Nashville, Tenn., writes:

> "Can you give me any information in regard to the 'Gatlin Treatment' for the cure of alcoholics and drug fiends? Does it do the work successfully? Would it be considered ethical for a regular M.D. to use it in connection with other treatments for these conditions, and make that his specialty? I understand it is a patented treatment and that one has to pay a royalty for the privilege of using it."

The Gatlin Institute is one of the many "three-day liquor cures" with which the country is at present afflicted. What the treatment is, we do not know. Ipecac seems to be an important part of the "treatment," judging from a specimen of one of the preparations said to be used by this concern and sent us by a physician. The claim made in some of their advertising that "by this method failure to cure is impossible" is, of course, false on the face of it. The claim, also, that "for ten years the Gatlin Institute treatment has been restoring men to mental and physical health in three days . . ." is equally impossible and absurd. There seems to be a close connection between the "Gatlin Institute" and the "Neal Three-Day Liquor Cure." The Neal concern is operated from the Chicago Hospital. Connected with the Neal outfit is one Joseph DeBarthe, who calls himself "doctor" and who for some time exploited the "DeBarthe Rheumatism Cure." The DeBarthe fakery was discussed in THE JOURNAL, Dec. 16, 1911, and the matter has been reprinted in "Nostrums and Quackery." At present DeBarthe seems to be pushing a new mail-order fraud that he calls Kinpo, which is guaranteed to "sober you up immediately." We are told:

> "Kinpo is not a cure but a sobering up process."
> "No medicine can cure the drink habit."
> "Kinpo does, in a few hours, for two dollars, what so-called cures cannot do in three days at a cost of $125."

It should not be difficult for our correspondent to answer his own question from the data given.

THE AMOUNT OF COD-LIVER OIL IN VARIOUS PREPARATIONS

The following inquiry was received from Dr. E. H. Morgan, Granbury, Tex.:

> "Some time ago I noticed in THE JOURNAL an article comparing the amount of cod-liver oil in the different preparations of the various manufacturers, including Wampole, Parke, Davis & Co., Wyeth & Brother, and others, stating that the amount of cod-liver oil did not come up to the statements of the manufacturers, and giving the percentage in each preparation. I have been looking for this article in back numbers of THE JOURNAL and have failed to find it. I have been prescribing Wampole's but it seems that some of the other preparations contained more cod-liver oil than Wampole's, and of course I am anxious to find out the one containing the most cod-liver oil that I may specify it."

A sharp distinction must be made between emulsions of cod-liver oil, which contain the oil, and the so-called extracts, in which no oil is present. Regarding emulsions, the results of analyses made by the Connecticut Agricultural Experiment Station (and abstracted in THE JOURNAL, March 30, 1912), show that when the preparations were labeled U. S. P. or N. F. they complied fairly well with the requirements. Consequently if a physician desires to use preparations of this sort, it is well to see that they are labeled as official preparations, or to employ some of the approved preparations which will be mentioned. A number of cod-liver oil emulsions are described in the National Formulary. Thus, glycerin emulsion of cod-liver oil, N. F., is an emulsion made with yolk of egg, and contains 50 per cent. of cod-liver oil. This emulsion may be made by any competent pharmacist or can be purchased from pharmaceutical manufacturing houses. For instance, the H. K. Mulford Company lists:

> "Cod-liver oil, nutritive (egg emulsion) Cod-liver oil, 40 per cent., emulsified with eggs and brandy."

Also, Parke, Davis & Co. list:

> "Egg emulsion of cod-liver oil, improved. . . . Contains 40 per cent. by volume, of pure cod-liver oil, emulsified with fresh eggs and flavored with superior brandy."

And in the appendix to New and Nonofficial Remedies are mentioned the following preparations of cod-liver oil and malt extract:

> Maltine with Cod-Liver Oil: Representing maltine, 56.115 per cent.; glycerin, 10 per cent.; cod-liver oil, 30 per cent.; alcohol, 3.885 per cent.
>
> Maltzyme with Cod-Liver Oil: Consisting of maltzyme concentrated and brought back to its original volume by the addition of 25 per cent. of Lofoten cod-liver oil.

The second class, the so-called extracts, includes preparations which are devoid of oil and which are said to represent extractive matter obtained either from cod-liver oil or from cod livers. They are asserted to represent the virtues of cod-liver oil, but lack the very constituent which lends the oil its virtues, namely, the fat. A discussion of cod-liver oil substitutes appeared in THE JOURNAL, Oct. 13, 1906, and gave simple directions whereby they may be distinguished from real cod-liver oil emulsions. The notorious Waterbury humbug was discussed in THE JOURNAL, Oct. 9, and 23, 1909. Like most substitutes for cod-liver oil, the Wampole preparation is said to contain various other ingredients, such as malt extract and an assortment of hypophosphites. The following comment appears in the report of the Connecticut Agricultural Experiment Station:

> Wampole's Perfected Tasteless Preparation of the Extract of Cod Liver: "Contains a solution of the extractive obtainable from fresh cod liver, the oily or fatty portion being afterward eliminated. This extractive is combined with liquid extract of malt, fluidextract of wild cherry bark and compound syrup of hypophosphites (containing calcium, sodium, potassium, iron, manganese, quinin and strychnin)." In spite of the presence of the different hypophosphites as claimed, the total phosphoric acid in this sample amounts to only 0.14 per cent., so that the amount of hypophosphites present cannot be great. In other respects the label is a reasonably accurate description of the product.

While Henry K. Wampole & Co. do not claim the presence of cod-liver oil in their compound, the error of our correspondent in assuming its presence is natural and illustrates how not only the public but also the medical profession are misled by this class of preparations.

Association News

THE MINNEAPOLIS SESSION

Plans for the Reception and Entertainment of Members Aside from the Scientific Meetings

Plans for the meeting of the American Medical Association in June are being rapidly matured by the local committees at Minneapolis and associate committees in the sister city of St. Paul. While Minneapolis is the special hostess on the occasion, the city of St. Paul will take a substantial part in helping to entertain the large body of medical guests, with their families. From six to eight thousand visitors are expected by the local committee.

The University of Minnesota has placed at the disposal of the local executive committee the entire campus, with its many buildings, as the special meeting-place of the Association. The scientific exhibit and the commercial exhibit have been provided with ample quarters in the university buildings.

HOW TO MAKE HOTEL RESERVATIONS

Members of the Association are requested to notify Dr. S. Marx White, chairman of the Committee on Hotels, as speedily as possible, of the date of their expected arrival and of the extent and character of the accommodations they will require. The hotels, which are of unusually good capacity, will be reinforced by the several private clubs of the two cities, which are placing their rooms at the disposal of the committee. For a list of hotels, giving their location, rates and other information, see THE JOURNAL, March 8, 1913, p. 764.

ATTENTIONS TO BE SHOWN VISITING MEMBERS

A large reception committee has been organized, members of which will be assigned to each railway station, to meet each incoming train and pilot to their destination the guests of the Association. Bureaus of information for the benefit of visitors will be established at stations, hotels and meeting-places. A special committee of women physicians will take care of their professional associates who attend the meeting.

A committee on local transportation will make it its special business to pilot guests about the city and to secure adequate street-car, taxicab and automobile facilities for the larger events on the program.

OTHER ANNUAL MEETINGS

Among the unaffiliated scientific bodies which take advantage of the meeting of the American Medical Association to hold their annual sessions, just before it or just after, are the [illegible] meet [illegible] American Academy of Medicine, wh [illegible] . Min [illegible] 15, at the Hotel Le

American Teachers of Diseases of Children, which meets at the Commercial Club, June 16. Other announcements will be made later.

OBSERVANCE OF PUBLIC HEALTH SUNDAY

Association Week will be opened with the observance of Public Health Sunday, June 15, in Minneapolis and St. Paul. The various ministers' associations have given their cordial support to this plan, and with practical unanimity the individual churches will invite to their pulpits public health speakers provided by the Council on Health and Public Instruction of the American Medical Association. The ready sympathy this movement has met goes to prove the appeal of the gospel of sanitation to the people.

RECEPTIONS AND PLEASURE-TRIPS

The plans of the entertainment committees in both Minneapolis and St. Paul include arrangements for an unusually brilliant series of social events. The ladies of the Twin Cities are anticipating the attendance of a large number of the wives and daughters of members and are preparing to make their visit an enjoyable one. The environs of the Twin Cities are of remarkable natural beauty and, linked with their park systems, which are wonderfully well developed, give ample opportunity for outdoor pleasure.

EXCURSIONS FROM MINNEAPOLIS

Minneapolis is a good point from which members and their families may extend their annual holiday by way of excursions to the great sight-seeing regions of the Northwest. A committee of arrangements, appointed for this purpose, has planned a party to go by special train on a twelve days' trip to the Yellowstone National Park. From this point special opportunities will be given for extended excursions to the Colorado Rockies, the Canadian Rockies, to California and the Puget Sound country, and on to Alaska for a twelve days' cruise by way of the inland passage, to the Land of the Midnight Sun, including visits to some interesting Indian and Eskimo villages and to some of the finest of the Alaskan glaciers. (See The Journal, February 8, p. 460 and March 29, p. 1010.)

THE MINNEAPOLIS NUMBER

The usual illustrated convention number of The Journal will be issued May 10. The "Minneapolis Number" will describe the plans for the meeting, the convention city, and give details of the programs, hotels, social events, railroad excursions and other matters of interest.

Correspondence

A Device to Increase Humidity in the House in Winter

To the Editor:—The problem of getting enough moisture in the air of our houses in winter has been rather difficult to solve; but after trying many experiments I have hit on a simple device which may be worth passing along.

Some of the various contrivances in the shape of radiator pans are unsightly, and most of them, in my experience, inadequate. Shallow pans placed on top of the radiators are the most effective, but are usually inconvenient and unsightly. The concealed, fluted, deep pans which are made to hang back of the radiators have too small a surface to allow much vaporization, and are poorly heated.

To furnish air fit to breathe, a quart of water transformed into vapor every twenty-four hours is none too much for a room 14 feet square. These pans, as I have seen them used, furnish much less than that amount.

I have found that the vaporization can be doubled or quadrupled by the use of cloths of any absorbent material twisted through two or three coils in the back of the radiator, with one or both ends dropped into the pan of water. The material acts like the wick of a lamp, drawing up the water as fast as it is evaporated. As it is in close contact with the radiator surface it is heated very quickly, and the extensive surface of the twisted cloth fulfils the second requirement for securing rapid evaporation.

With this device, any sort of pan which admits of easy concealment under or behind the radiator may be used, and the amount of water evaporated may be regulated at will by the number and size of the cloths used. The cloths, of course, can easily be concealed.

I have increased the average for each radiator from a pint or less in twenty-four hours to a gallon in the same time, by the use of these absorbent cloths, and it could be increased still further almost *ad libitum*.

Kenneth Taylor, St. Paul.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ABELEN'S REACTION FOR SALVARSAN IN URINE

To the Editor:—Please explain the method described in The Journal, Oct. 19, 1912, p. 1493, for detecting salvarsan in urine. How is the 10 per cent. alkaline resorcin solution made?

O. D. P.

Answer.—The writer of the article referred to uses Abelen's reaction for salvarsan in urine as follows: From 7 to 8 c.c. of urine are made acid by 2 or 3 drops of 0.1 per cent. hydrochloric acid. Then 3 or 4 drops of a 10 per cent. sodium nitrite solution are added (by a typographic error this was given in our abstract as "nitrate"); then 2 or 3 drops of alkaline resorcin solution (10 per cent.) and at last an excess of sodium hydroxid. The whole reaction should be carried out with the vessels in ice-water, as a higher temperature destroys the diazo compounds formed. The article does not explain what is meant by alkaline resorcin, but we judge that it is simply a solution of resorcinol which has been made slightly alkaline. Evidently this is a reaction for the benzol constituent of salvarsan and not for the arsenic.

OZONE AS A MEDICINE

Several inquiries have been received recently regarding the use of ozone. The following list of references to this subject may be of general interest:

Schaefer, F. W.: The Supposed Beneficial Effects of Ozone, a Popular Medical Fallacy, *Dietet. and Hyg. Gaz.*, 1908, xxiv, 385.

Stoker, G.: Cavity of Lung Successfully Treated with Ozone, *Lancet*, London, April 18, 1908.

Purification of Water by Ozone, editorial, The Journal, Aug. 21, 1909, p. 636.

Purification of Water by Ozone, correspondence, The Journal, Sept. 25, 1909, p. 1042.

Franklin, M. W.: Ozone, *New York Med. Jour.*, April 8, 1911.

The Alleged Hygienic Value of Ozone, editorial, The Journal, Oct. 21, 1911, p. 1370.

Ozone Myths, editorial, The Journal, Feb. 10, 1912, p. 412.

Effects of Ozonization, Vienna Letter, The Journal, July 13, 1912, p. 131.

Pfannenstill, S. A.: Local Treatment of Tuberculous and Other Infectious Processes with Combined Action of Sodium Iodid and Ozone, *Nord med. Ark.*, 1912, abstr., The Journal, July 27, 1912, p. 318.

DISCOLORATION OF THE SKIN FROM GOLD JEWELRY

To the Editor:—I have a peculiar case regarding which I can find nothing in my books. A young woman, aged 24, is much annoyed by a dark discoloration of the skin of the neck whenever she wears any gold chain, locket, etc. If the jewelry is left off, this discoloration wears away after several days. It is not noticed on any other part of the body, the patient says. She is taking no medicine internally, nor does she use any external application other than pure talcum powder.

C. N. S. R.

Answer.—This is probably due to the formation of the oleate of gold. Some persons are more prone to it than others. This point was taken up at greater length in this department, June 1, 1912.

SUBSTITUTE FOR COFFEE

To the Editor:—In answer to the inquiry in The Journal, Feb. 1, 1913, p. 390, a satisfactory substitute for coffee, which was used during the war, is made of rye. Roast the grains in oven and grind like coffee; boil from fifteen to twenty minutes. If served hot with cream and sugar it is delicious.

S. D. W.

AUTO-INTOXICATION AND THE REACTIONS OF TOXINS

To the Editor:—1. Please give me a few references to magazine articles or books on intestinal intoxication, wrongly termed "auto-intoxication."

2. What reaction (alkaline or acid) do the invasions of bacterial organisms produce in the human or animal body? Please cite references along this line.

H. L. STITT, M.D., Washington C. H., Ohio.

ANSWER.—1. Abrams: Auto-Intoxication, E. B. Treat & Co., 241 West Twenty-Fifth Street, New York, $1.50.
Bouchard: Auto-Intoxication, F. A. Davis Co., 1914 Cherry Street, Philadelphia, $2.
Combe: Intestinal Auto-Intoxication, Rebman Co., 1123 Broadway, New York, $4.

2. Both alkaline and acid reactions are produced. As a rule, organisms which decompose carbohydrates produce acids, while the putrefaction of protein substances results in the formation of ammonia or of some of the combined ammoniums which are alkaline in reaction. Some of the products of putrefaction are, however, neutral. A good book on this subject is Herter's "Bacterial Infections of the Digestive Tract," published by the Macmillan Company, 66 Fifth Avenue, New York, at $1.50.

AMERICAN SOCIETY FOR PHYSICIANS' STUDY TRAVELS

To the Editor:—I understand there is a doctors' club going abroad this summer to visit various clinics. If you could give me any information on the subject, I should greatly appreciate the favor. ALBERT SMITH, M.D., Parsons, Kan.

ANSWER.—Our correspondent presumably refers to the American Society for Physicians' Study Travels. He can write to the chairman, Dr. J. M. Anders, 1605 Walnut Street, Philadelphia, for further information. A preliminary announcement concerning this new organization appeared in THE JOURNAL, Jan. 4, 1913, p. 66.

REPRINTS CANNOT BE SHIPPED BY PARCEL POST

A number of authors in ordering reprints have requested that these be shipped by parcel post in order to save expense. THE JOURNAL has had to reply that at present the post-office does not permit the shipment of reprints by parcel post; they are classified with books—at the third class rate. There are a number of features about the parcel post which it is hoped may be modified. This certainly is one. Just why books should not be treated so favorably as a box of cigars, for instance, we cannot see.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

EDUCATIONAL WORK OF THE SPEAKERS BUREAU

One of the important activities of the Council on Health and Public Instruction of the American Medical Association is the Speakers Bureau. This has been in existence for the past year. Most of the work done during the spring of 1912 was in the nature of experiment, as it was necessary to learn the best methods for carrying on the work, as well as the best mediums for publicity. In October, 1912, an announcement was sent to the presidents and secretaries of all county and state medical societies and women's clubs, to the presidents and the secretaries of the faculties of universities, colleges, academies, normal schools, etc., as well as to chautauquas and teachers' institutes, offering to furnish speakers from a selected list of about a hundred and twenty-five well-known members of the Association. The Council offered to pay the expenses of the speakers, provided the local organization would furnish a meeting-place and advertise the meeting to the public.

The reception given the announcement of this plan showed that the public was interested in health matters and that the organization of such a bureau met a real need. Requests for speakers began to come in at once and have been received steadily ever since. From November 1 to March 31, the bureau has furnished speakers for 119 public meetings. The letters and clippings regarding the meetings have been interesting, as showing the point of view of the public and the appreciation of any efforts made for their education on health subjects. Extracts from a few of these letters may be of interest. The following are selected at random:

Dr. Lewellys F. Barker of Johns Hopkins University Medical School spoke recently in New Windsor, Md. Mr. I. C. Keller, the chairman of the local committee, writes:

"Dr. Barker delighted all who heard him. 'Why do you not speak longer?' was the question asked by many. In a simple, clear and beautiful manner he told us of the triumphs of modern medicine. We very much appreciate the favor which the American Medical Association has conferred on us in giving us this opportunity to hear Dr. Barker. I am sure that lasting benefits will result from his visit."

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, spoke, Sunday afternoon, February 9, at West Medway, Mass. The committee on arrangements was made up of representatives of the women's clubs, men's club, local board of health, board of aldermen, grange, school committee, Village School Improvement Society and the Historical Society. As a result the audience was a large and representative one. Mrs. E. S. Woodman, writing for the committee, says:

"We feel very grateful to the American Medical Association for making such a meeting possible, and if the offer is repeated next year we shall certainly avail ourselves of it."

The offer will be repeated next year. The education of the public by the scientific physicians of the country has just begun.

Dr. George B. Young, health commissioner of Chicago, spoke, March 19, in Des Moines, Iowa. Mrs. S. J. Dillon writes:

"I wish to thank you in behalf of the Des Moines Woman's Club for your splendid arrangement which made it possible for us to have Dr. Young address our people. We were able to secure an unusual thing in our city—an audience composed of representative people, including members of the various social service organizations, physicians and representatives from the city council. We look for good results to follow. Dr. Young's address made a profound impression."

In college towns the intellectual life of the place generally centers around the college. The Y. W. C. A. of Albion, Mich., evidently believes that good health is necessary for true Christianity. The association recently arranged for a public meeting and asked for Dr. Miles F. Porter of Fort Wayne, Ind. Following Dr. Porter's address, the young woman who was chairman of the committee on arrangements wrote:

"Dr. Porter's talk was not only of interest but has met a genuine need in our community. The people are very much interested in public health questions and are appreciative of an opportunity of learning."

One of the subjects on which much interest has been manifested is that of sex hygiene and the proper instruction of girls and boys on this subject. Dr. E. W. Fiegenbaum of Edwardsville, Ill., is one of the most active members of the organization in his part of the state. He was for some time an efficient secretary of his county society. He has been deeply interested in the education of the public on sex hygiene, in order to protect the innocent and ignorant from becoming victims of disease. Dr. Fiegenbaum recently spoke in Granite City, under the auspices of the local board of education. The secretary of the board writes:

"Dr. Fiegenbaum delivered his address here to a large and well-pleased audience. The church was well filled, there being some three hundred present, and from the comments made it was apparent that all were well pleased and instructed."

The state superintendent of schools of West Virginia asked the Speakers Bureau to send Dr. A. T. McCormack of Bowling Green, Ky., to give an illustrated address before a conference of county superintendents. Dr. McCormack spoke in the Y. M. C. A. Hall to an audience made up of superintendents of education, members of the state legislature and the general public. The impression made is shown by the fact [illegible] he state superintendent, Prof. M. P. Shawkey, at once asked if the bureau could arrange for Dr. McCormack to give an illustrated address before each of the teachers' institutes in the state. The bureau is arranging to do so.

Athens, Tenn., is interested in municipal hygiene. The local woman's club secured the cooperation of all the public-spirited organizations in the city, arranged for a public meeting and asked the bureau for Dr. William Krauss of Memphis. Mrs. E. C. Ferguson, the chairman of the local committee on arrangements says:

> "The address was given at the court-house. Mayor Grant presided and introduced the speaker to a large audience, which included not only citizens of the town but many from other parts of the county, as the county court was in session at the time. Dr. Krauss was listened to with close attention in his discussion of public welfare, sanitation and health."

In response to invitations, Dr. E. E. Montgomery of Philadelphia filled appointments on two consecutive evenings in Easton and Grove City, Pa. The chairman of the local committee at Grove City writes:

> "Our meeting here Saturday evening was a pronounced success. A good attendance was present, and all thoroughly enjoyed Dr. Montgomery's lecture. Many kind expressions were heard concerning the American Medical Association and its splendid work. Dr. Montgomery made a good impression by his ability, sincerity and complete knowledge of his subject. We hope you will keep us on your list for next year, as we shall be glad to cooperate in your campaign of educating the public on health matters. We thank the American Medical Association for its kindness and for the great privilege of having Dr. Montgomery here."

Following Dr. Winfield S. Hall's address at Benton Harbor, Mich., the chairman of the local committee, after commenting on the favorable impression made by Dr. Hall on his audience, composed of members of several literary clubs, mothers' clubs, teachers, physicians and business men, and on the value of the meeting to the public, says:

> "This plan of the American Medical Association seems a very wise one and one which will surely result in a clearer knowledge of what the young people need. We thank you very much for what you have done to help us get the benefit of this plan."

Another member of the local committee writes:

> "I have wished many times that you might hear the enthusiastic discussion and comments which Dr. Hall's lecture called forth. The most gratifying result was that the women, who are not usually interested in lectures, attended this one and earnestly discussed with other women who had not been present, thereby spreading enthusiasm and creating a greater interest in the subject."

Some of the meetings have been arranged for by the university faculties, the audiences being made up of teachers, students and the local public. Dr. Victor C. Vaughan, dean of the Department of Medicine and Surgery of the University of Michigan, arranged, through the bureau, for a series of addresses on public health, one of which was delivered by Dr. Abraham Jacobi, President of the American Medical Association. Following the meeting, Dr. Vaughan wrote:

> "Dr. Jacobi was here February 19, and gave us splendid talks. The whole town is enthusiastic about him and they have pronounced him a grand old man. We have never had so successful a meeting."

Similar series of meetings have been arranged for by the bureau in connection with the universities of Wisconsin, Minnesota, Illinois, Arizona and others. The work of the Speakers Bureau is only beginning. It is capable of great expansion in scope and increase in usefulness. Readers of The Journal should know of its existence and of its work, so as to be able to inform any local organization desiring an authoritative speaker on health topics how the cooperation and assistance of the bureau can be secured.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 7-8. Sec., Dr. John Wix Thomas.

District of Columbia: Washington, April 8. Sec., Dr. George C. Ober, 125 B St., S.-E.

Illinois: Armory Battery B, Chicago, April 29-May 1. Acting Secretary, Amos Sawyer, Springfield.

New Mexico: Santa Fe, April 14. Sec., Dr. W. E. Kaser, East Las Vegas.

Oklahoma: Oklahoma City, April 8. Sec., Dr. John W. Duke, Guthrie.

West Virginia: Huntington, April 14. Sec., Dr. H. A. Barbee, Point Pleasant.

THE PRESENT STATUS OF MEDICAL EDUCATION*

N. P. Colwell, M.D.
Secretary of the Council on Medical Education of the American Medical Association
CHICAGO

As shown by Chart 1, in 1904, there were 166 medical schools in the United States which was nearly one-half of the world's supply of medical colleges. Since that time, very largely since 1907 when the first classification of colleges was prepared, the decrease in the number of schools has been quite rapid. This has been brought about partly by the disappearance of the commercial medical schools which have gone out of existence but more largely through the merger of several small schools in each of numerous localities, leaving in each instance one larger and stronger school, such as was done in Louisville, Ky., where five colleges merged into one. The same thing has occurred in Indiana, Minnesota, Iowa and elsewhere. The number of medical schools will be about 110 at the end of the present college session. This decrease in the number of medical colleges has not been to the detriment of medical education but to its advantage. It has not removed or lessened the opportunities for students to study medicine, but has resulted in giving them better opportunities. It has resulted in reducing the abnormal oversupply to a smaller number but a better grade of medical schools.

A word or two with reference to the reduction in the number of medical schools. Statements are frequently made about "the poor boy who cannot get a medical education." That statement has been made so often that it is hardly worth while to refer to it in this conference, but the last educational number of The Journal, Aug. 24, 1912, shows the tuition fees that are charged by medical schools. The fees charged by some Class C colleges are more excessive than those in several of the Class A Plus schools. Some high-grade state university medical schools have fees as low as $50 to $60, whereas, some of the Class C schools charge fees of from $100 to $200, so that the plea for the continued existence of a low-grade medical school is apparently more for the boy who is "poor" in scholarship rather than poor in purse. Why should a student spend his time and money in a low-grade college when in the same time and with even less money he can attend one of the best equipped colleges?

It is the state boards which have the legal power in connection with low-grade medical schools. On the action taken by state boards will depend whether this country is going to be relieved of the disgrace of longer tolerating medical schools which admit poorly prepared students, which lack the means to provide the essential well equipped laboratories and expert teachers, or which do not possess ample dispensary and hospital facilities. In other words it is up to the state licensing boards, so far as legal power has been given them, to say whether the future output of physicians in this country shall be thoroughly trained, or whether the supply is longer to be contaminated by the ill-trained output from the low-grade colleges. The public has the right to expect that only properly trained physicians will obtain the license to practice.

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*Report given at the Ninth Annual Conference of the Council on Medical Education, Chicago, Feb. 24, 1913.

MEDICAL EDUCATION

CHART 1—MEDICAL COLLEGES; QUANTITY VS. QUALITY

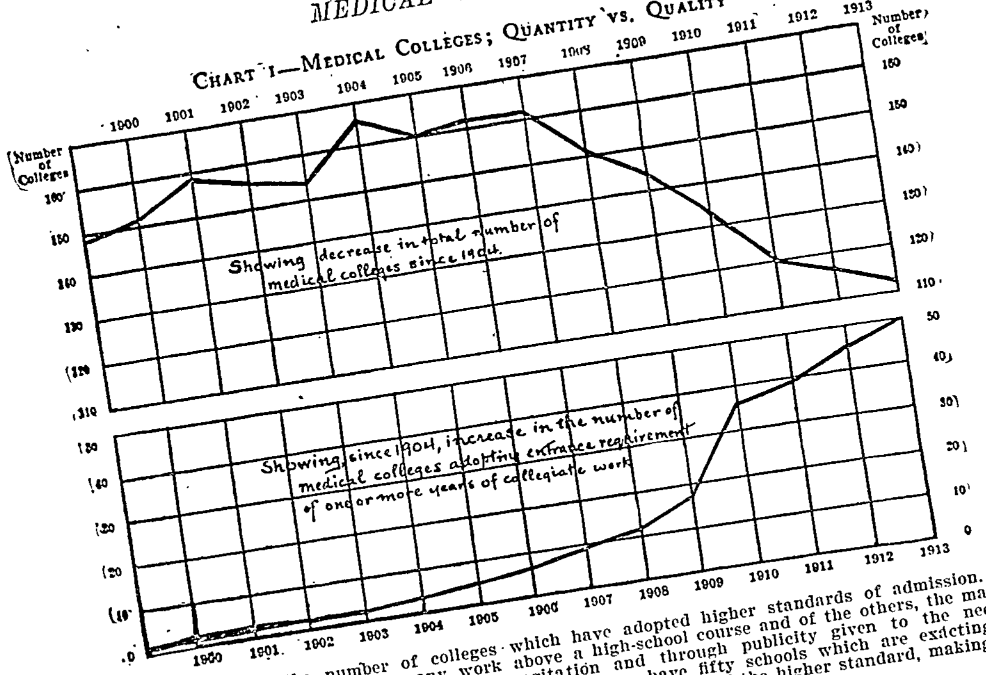


Chart 1 shows the increase in the number of colleges which have adopted higher standards of admission. In 1904 there were only four medical schools requiring for admission any work above a high-school course and of the others, the majority were practically admitting all who applied. Since that year, however, through agitation and through publicity given to the need and importance of higher requirements, the number has been rapidly increased, so that we now have fifty schools which are exacting these higher requirements. In the last few weeks several other colleges have announced the adoption of the higher standard, making a total of about sixty medical schools which have adopted the higher preliminary requirement.

CHART 2—STATE REQUIREMENTS OF PRELIMINARY EDUCATION

Minimum required for those who secure licenses to practice

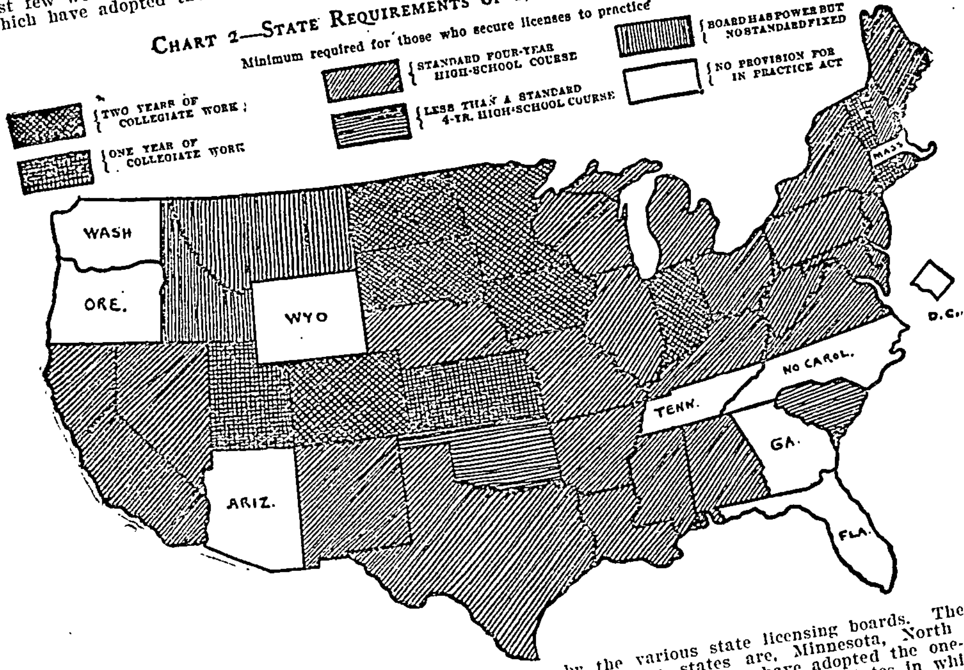

TWO YEARS OF COLLEGIATE WORK
ONE YEAR OF COLLEGIATE WORK
STANDARD FOUR-YEAR HIGH-SCHOOL COURSE
LESS THAN A STANDARD 4-YR. HIGH-SCHOOL COURSE
BOARD HAS POWER BUT NO STANDARD FIXED
NO PROVISION FOR IN PRACTICE ACT
WASH
ORE.
WYO
ARIZ.
TENN.
NO CAROL.
GA.
FLA.
MASS
D.C.

Chart 2 refers to the requirements of preliminary education by the various state licensing boards. There are six states which have adopted as a minimum requirement two years of collegiate work. These states are, Minnesota, North Dakota, South Dakota, Colorado, Indiana and Iowa. Four others, Connecticut, Kansas, Utah and Vermont, have adopted the one-year requirement and at the present time several other states are on the verge of making changes. There are twenty-five states in which the legal requirement is a standard four-year high-school education, these being:

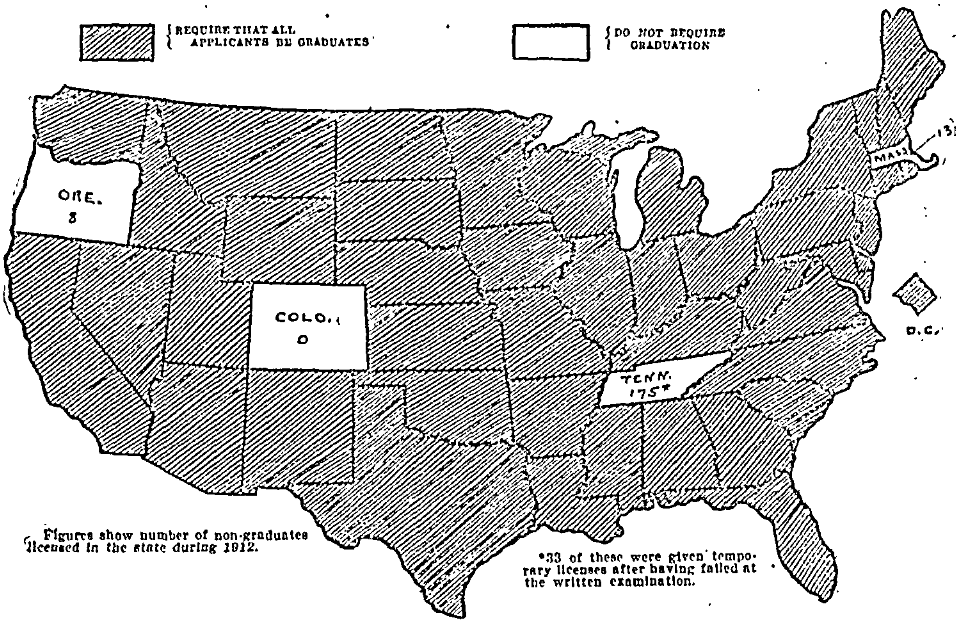
Alabama
Arkansas
California
Delaware
Illinois
Kentucky
Louisiana
Maine
Maryland
Michigan
Mississippi
Missouri
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
Ohio
Pennsylvania
Rhode Island
Texas
Virginia
West Virginia
Wisconsin

In Oklahoma the law specifically states that the standard is that of the Association of American Medical Colleges. That was all right since that required completion of a standard four-year high-school course, but another clause was inserted making legal the standard of the Southern Medical College Association which represented only two years or less of high-school work. In three states, Idaho, Montana and South Carolina, the practice acts give the boards authority to fix the standard of preliminary education, but no such standards have as yet been announced. In ten states no provision for preliminary education is made by the medical practice act. These states are:

Arizona
District of Columbia
Florida
Georgia
Massachusetts
North Carolina
Oregon
Tennessee
Washington
Wyoming

In a chart presented at our conference five years ago, it will be remembered, there
s, four of these being in the
South, which did not require that before being admitted to the examination for a
medicine every candidate must
have graduated from a reputable medical college.

Chart 3—States Requiring that Applicants be Graduates from a Medical College


REQUIRE THAT ALL APPLICANTS BE GRADUATES
DO NOT REQUIRE GRADUATION
ORE. 8
COLO. 0
TENN. 175*
MASS. 13
D.C.

Figures show number of non-graduates licensed in the state during 1912.

*33 of these were given temporary licenses after having failed at the written examination.

Chart 3 shows there are still four states that do not require graduation:

Oregon
Tennessee
Colorado
Massachusetts

The figures show, however, that in Colorado no non-graduates were licensed in 1912. In Oregon there were eight and in Massachusetts only thirteen licensed. The darkest record was in Tennessee where 175 non-graduates, nearly half of the total number licensed in that state during the year, were non-graduates. Since it is "always darkest just before day" so it is hoped the vigorous efforts now being made to amend the practice act in that state will be successful and that this disgrace of registering partly trained medical men will be forever removed.

Chart 4—State Boards Having Authority to Refuse Recognition of Low Grade Medical Colleges

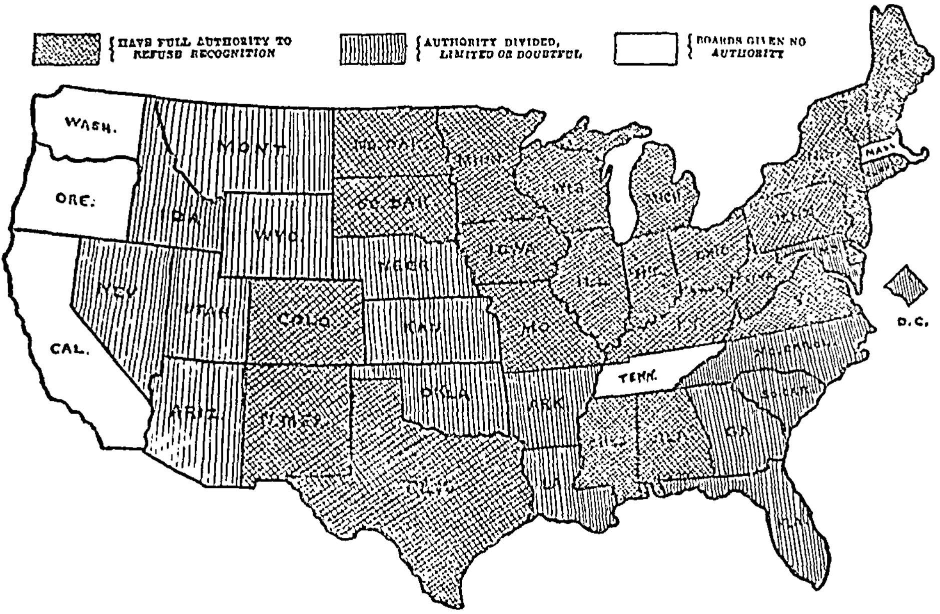

HAVE FULL AUTHORITY TO REFUSE RECOGNITION
AUTHORITY DIVIDED, LIMITED OR DOUBTFUL
BOARDS GIVEN NO AUTHORITY
WASH.
ORE.
CAL.
MONT.
IDA.
WYO.
NEV.
UTAH
COLO.
ARIZ.
SO. DAK.
NEBR.
KAN.
OKLA.
IOWA
MO.
ARK.
TENN.
MASS.
D.C.

Chart 4 shows that according to our latest information the licensing boards in twenty-seven states have full authority to refuse recognition to low-grade medical colleges. These states are:

Alabama
Colorado
Delaware
Illinois
Indiana
Iowa
Kentucky
Maine
Michigan
Minnesota
Mississippi
Missouri
Montana
New Hampshire
New Jersey
New Mexico
New York
North Dakota
Ohio
Pennsylvania
Rhode Island
South Dakota
Texas
Vermont
Virginia
West Virginia
Wisconsin

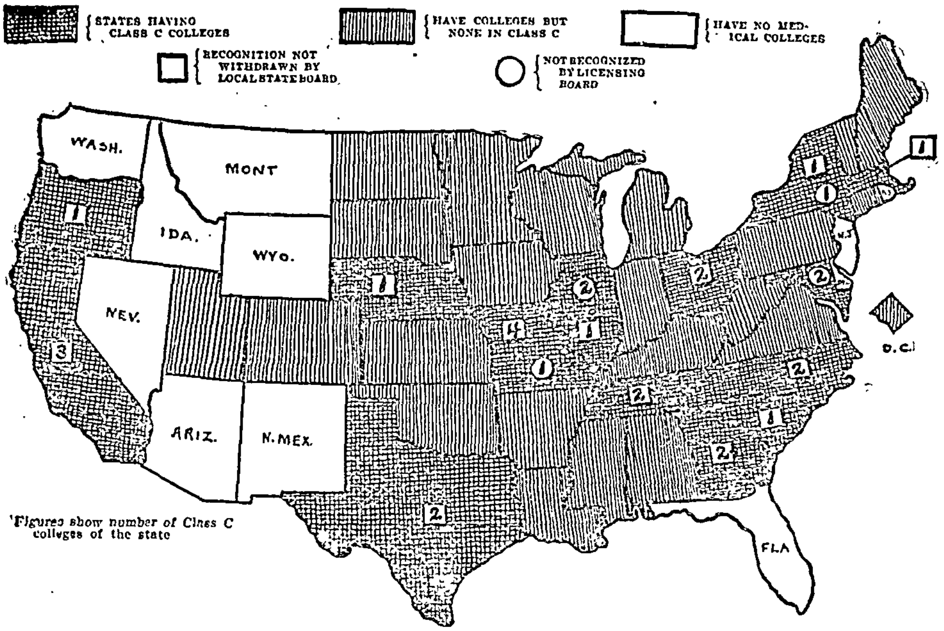
In each of those states there is a single board having complete or entire control of the situation. They can refuse recognition to any college which in the opinion of the board is not worthy of such recognition. There are seventeen states (counting the District of Columbia) in which authority to refuse recognition to low-grade medical colleges is divided with other boards or otherwise limited or doubtful. These states are:

Arizona
Arkansas (3 Boards)
Connecticut (3 Boards)
District of Columbia
Florida (3 Boards)
Georgia (3 Boards)
Idaho
Kansas
Louisiana (2 Boards)
Maryland (2 Boards)
Nebraska
Nevada
North Carolina
Oklahoma
South Carolina
Utah
Wyoming

There are five states—California, Massachusetts, Oregon, Tennessee and Washington—which have no legal power to refuse such recognition.

CHART 5—STATES HAVING MEDICAL COLLEGES

(Showing location of those rated in class C by the Council on Medical Education)


STATES HAVING CLASS C COLLEGES
HAVE COLLEGES BUT NONE IN CLASS C
HAVE NO MEDICAL COLLEGES
RECOGNITION NOT WITHDRAWN BY LOCAL STATE BOARD
NOT RECOGNIZED BY LICENSING BOARD
WASH.
MONT
IDA.
WYO.
NEV.
ARIZ.
N.MEX.
FLA
N.J.
D.C.
1
3
1
4
1
2
1
2
2
2
2
1
2
2
1
1
1
2

*Figures show number of Class C colleges of the state

Chart 5 shows the states which have colleges rated in Class C according to the third classification of the Council on Medical Education. The figures in the squares show the Class C colleges from which recognition has not been withdrawn in their home state, while those in circles give the number from which the local board has withdrawn recognition. States having Class C colleges not penalized by the local board:

California	3	Massachusetts	1	New York	1	Oregon	1
Georgia*	1	Missouri	4	North Carolina	2	Tennessee	2
Illinois	1	Nebraska	1	Ohio	2	Texas	2

*Recognized by the Eclectic Board. Total 21.

States having Class C colleges reported as not recognized by the local licensing boards are:

Georgia	1	Illinois	2	Maryland	2	Missouri	1	New York	1

Total 7.

CHART 6—REPORTED NON-RECOGNITION OF LOW-GRADE COLLEGES

(Compare with Chart 4)

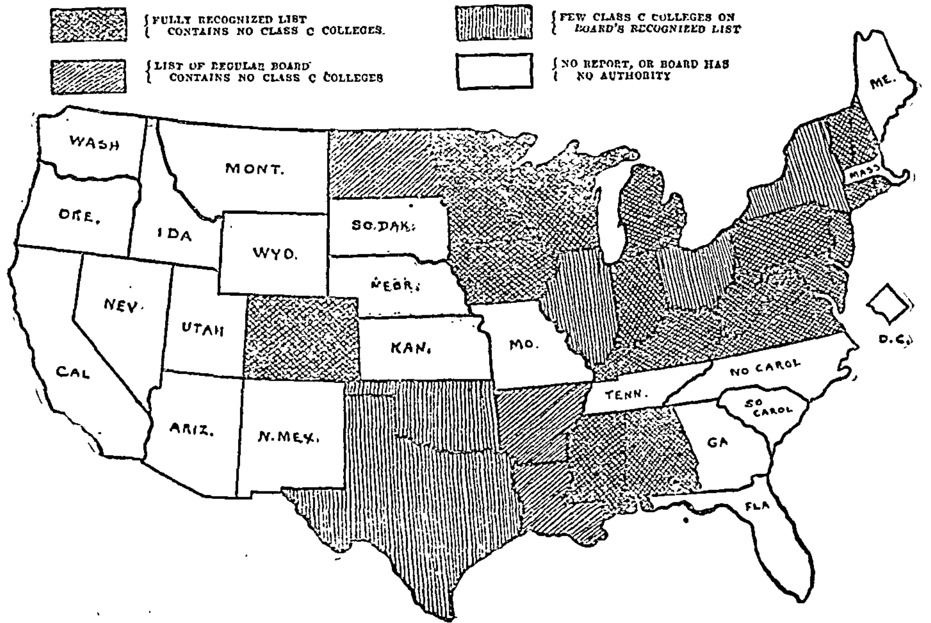

FULLY RECOGNIZED LIST CONTAINS NO CLASS C COLLEGES.
FEW CLASS C COLLEGES ON BOARD'S RECOGNIZED LIST
LIST OF REGULAR BOARD CONTAINS NO CLASS C COLLEGES
NO REPORT, OR BOARD HAS NO AUTHORITY
WASH
MONT.
ORE.
IDA
WYO.
SO.DAK.
NEBR.
NEV.
UTAH
KAN.
MO.
CAL
ARIZ.
N.MEX.
TENN.
NO CAROL
SO CAROL
GA
FLA
ME.
MASS
D.C.

Chart 6 shows the results of some correspondence that was carried on in the interest of prospective medical students, to ascertain what states were recognizing Class C medical schools. Some of the boards are apparently guided more or less by the Council's ratings while others—to be preferred—have prepared their own lists. From this investigation it is apparent that no medical colleges rated in Class C are fully recognized by the following state boards:

Alabama
Arkansas (Reg.)
Colorado
Connecticut (Reg.)
Delaware
Iowa
Kentucky
Louisiana (Reg.)
Maryland (Reg.)
Michigan
Minnesota
Mississippi
New Hampshire
New Jersey
North Dakota
Pennsylvania
Rhode Island
Vermont
Virginia
West Virginia
Wisconsin

In the following states it is apparent that the majority of Class C medical colleges are not fully recognized:

Illinois
Indiana
New York
Ohio
Oklahoma
Texas

It will be seen therefore by comparing this chart with Chart 4, that practically all state boards having authority to do so have taken more or less vigorous action in regard to low-grade medical colleges.

Book Notices

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By William Osler, Bt., M.D., F.R.S., Regius Professor of Medicine, Oxford University. Eighth Edition, Largely Rewritten and Thoroughly Revised, with the Assistance of Thomas McCrae, M.D., Professor of Medicine, Jefferson Medical College, Philadelphia. Cloth. Price, $5.50. Pp. 1225. New York: D. Appleton & Co., 1912.

This classic in medical literature has undergone another of its periodical revisions in pursuance of the author's expressed ambition to keep it up to date. The rapid advances in the knowledge of many diseases, particularly the infectious diseases, has necessitated many changes which the author with able assistants has endeavored to make. The subjects have been rearranged and in many instances have been almost entirely rewritten. The publishers have changed the size of the page and have made the margins narrower. In this respect the book is not improved in appearance. It would be presumptuous to attempt to criticize the text of this standard work on practice, yet there are many who will still feel that the matter of treatment is regrettably brief. The enormous experience and the good judgment of the author, which have made the work so valuable as it is, would seem to fit him especially to guide more definitely the general practitioner in his daily work.

FORTSCHRITTE DER NATURWISSENSCHAFTLICHEN FORSCHUNG. Herausgegeben von Prof. Dr. Emil Abderhalden, Direktor des physiologischen Institutes der Universität Halle a.S. Volume VII. Paper. Price, 15 marks. Pp. 268, with 106 illustrations. Berlin: Urban & Schwarzenberg, 1913.

This volume of the "Fortschritte" is extremely interesting to physicians occupying themselves with scientific subjects. Of especial value is the monograph on comparative neurology and psychology, by Dr. V. Franz, in which some revolutionary statements are made. To mention only one: The size of the brain and the depth of its convolutions depend less on the psychic qualities of the animal possessing them than on its total body-weight. The entire monograph constitutes a frank attempt to overthrow stereotyped statements still in need of proof. Another monograph equally interesting to physicians is the one contributed by Dr. Hermann Klaatsch on the human foot and erect locomotion, in which he discusses the origin and acquisition of human characteristics. This is a profound biologic study written in non-technical language.

EXPERIMENTAL STUDIES OF MENTAL DEFECTIVES. A Critique of the Binet-Simon Tests and a Contribution to the Psychology of Epilepsy. By J. E. Wallace Wallin, Ph.D., Director of the Psychologic Clinic, School of Education, University of Pittsburgh. Educational Psychology Monographs, No. 7. Cloth. Price, $1.25 net. Pp. 155, with illustrations. Baltimore: Warwick & York, 1912.

This monograph embodies the results of a critical study of the Binet-Simon scale when applied to a colony of over three hundred epileptics. Dr. Wallin finds that the scale needs further development and correction before it can become generally applicable to routine mental testing. He further discovered that though there are exceptions,. yet the great majority of those suffering from epilepsy fail to reach normal mental maturity and fall into the upper group of the feeble-minded, the so-called moron class. The latter fact he could ascertain only by a faithful application of the Binet-Simon scale, imperfect as it is. He believes the test to be in its experimental stage, but capable of yielding more positive results than any method hitherto followed.

EIN WEITERER BEITRAG ZUR GLAUKOM-FRAGE By Dr. W. Wagner Paper. Price, 1.50 marks. Pp. 45. Berlin: S. Karger, 1912.

This is the personal experience of a physician who gives the symptoms, progress and treatment of glaucoma in his own eyes. While the recital really adds nothing to our knowledge of that formidable disease, yet it constitutes an interesting contribution to the literature by a serious student of the subject. He strongly advocates the employment of iridectomy as the method most likely, in the average run of cases, to stay the advance of the malady.

Medicolegal

Validity and Construction of Provisions Relative to Itinerant Physicians

(Kirk vs. State (Tenn.), 150 S. W. R. 83)

The Supreme Court of Tennessee holds constitutional section 4 of chapter 543 of Acts of 1907, amending chapter 78 of Acts of 1901, which section provides that "it shall be unlawful for any itinerant physician, or vendor of any drug, nostrum, ointment, or application of any kind intended for the treatment of disease or injury, to sell or apply the same," etc. The court says that the object of the legislature in enacting these statutes—the original and that amending it—was to regulate the practice of medicine and surgery in the state of Tennessee, and the legislation in each act must be confined to this object. It was not intended by the general assembly to prohibit the sales of drugs, etc., but to forbid the sale and application of them. The disjunctive "or" is used in the statute in the sense of the conjunctive "and" between the words "sell" and "apply." This is clear from the subject expressed in the original act, "The regulation of the practice of medicine and surgery," and the body of both acts. There was no intention to go beyond the subject expressed and to legislate concerning the sale of drugs, nostrums, etc.

Reading the word "and" instead of "or" in the statute preserves it from the vice of containing two subjects, that of practicing medicine and that of engaging in the sale of medicine. Construing the act only to prohibit the sale and application of drugs, etc., the provision in question applies strictly and solely to the practice of medicine and surgery, the subject of the act expressed in the title. This construction has been given the word "or" in a similar statute enacted in Louisiana.

The court is of the opinion, too, that there is no unlawful discrimination in the provisions of the statute, and that it is not subject to the objection that it is vicious and arbitrary class legislation. The court thinks, on the contrary, that the distinctions made between physicians, surgeons, and vendors who have an established place of business, where they are known to the public and all who may be reasonably expected to become their patients and patrons, and itinerant physicians and vendors of drugs, medicines, appliances, etc., intended for the treatment of disease or injury, is supported by a natural and reasonable basis, and has reasonable relation to the subject-matter. The object of the prohibition is to prevent physicians and vendors who have no fixed place of business, are unknown to those to whom they tender their services and medicine, and have no reputation for professional skill, honesty, and fair dealing to maintain, from traveling about the country and defrauding the people by working on the fears and hopes of the unfortunate and afflicted. It is well known that itinerant physicians and vendors of medicines, nostrums, appliances, etc., of this character are generally and as a class unreliable, and that the money which they obtain from an unfortunate class of people is without consideration. Statutes for this purpose, similar to the one under consideration here, have been enacted in most of the states, and their constitutionality generally sustained.

The specific provision of the statute which the plaintiff in error Kirk was charged with violating was that which prohibits itinerant physicians and vendors, by writing, printing, or other methods, to profess to cure or treat disease or deformity by drugs, manipulation, or other expedient. The object of this provision is to prevent such persons from practicing the frauds prohibited in the first clause of the sentence. It is well known that fakers of the kind here legislated against usually advertise their services and medicines, and that advertising, if not altogether necessary, greatly aids them in perpetrating their fraudulent practices on the people. It is well settled that the legislature may enact laws which tend to prevent the perpetration of fraud, although the act prohibited is otherwise harmless. This provision has usually been contained in the statutes passed by other states for the suppression of itinerant physicians and nostrum-vendors, and generally sustained.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 17 20

Alabama State Medical Association, Mobile, April 15-18.
Amer. Assn. of Genito-Urinary Surgeons, Washington, May 6-7.
Am. Assn. of Pathologists and Bacteriologists, Washington, May 6-8.
American Climatological Association, Washington, May 6-7.
American Dermatological Association, Washington, May 6-8.
American Gastro-Enterological Association, Washington, May 5-6.
American Gynecological Society, Washington, May 6-8.
American Laryngological Association, Washington, May 5-7.
American Laryn., Rhin. and Otol. Society, Washington, May 8-10.
American Neurological Association, Washington, May 5-7.
American Ophthalmological Society, Washington, May 6-7.
American Orthopedic Association, Washington, May 6-8.
American Otological Society, Washington, May 6-7.
American Pediatric Society, Washington, May 5-7.
American Society of Tropical Medicine, Washington, May 6-8.
American Surgical Association, Washington, May 6-8.
American Therapeutic Society, Washington, May 5-6.
American Urological Association, Boston, April 15-17.
Association of American Physicians, Washington, May 6-7.
California State Medical Society, Oakland, April 15-17.
Congress Am. Phys. and Surg. of N. America, Washington, May 6-7.
Florida Medical Association, Miami, May 13-15.
Georgia State Medical Association, Savannah, April 16-18.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Topeka, May 7-8.
Louisiana State Medical Society, Baton Rouge, April 22-24.
Maryland Medical and Chirurgical Faculty, Baltimore, April 22-24.
Mississippi State Medical Association, Vicksburg, April 8-10.
Missouri State Medical Association, St. Louis, May 13-15.
Montana State Medical Association, Great Falls, May 14.
Nat. Assn. for Study and Prev. of Tuberculosis, Washington, May 8-9.
New York State Medical Society, Rochester, April 29-May 1.
North Dakota State Medical Association, Minot, May 7-8.
Oklahoma State Medical Association, Enid, May 13-15.
South Carolina State Medical Association, Rock Hill, April 15-17.
Tennessee State Medical Association, Nashville, April 8-10.
Texas State Medical Association, San Antonio, May 6-8.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-fifth Semiannual Meeting, held at Kansas City, Mo., March 20-21, 1913

The Second Vice-President, Dr. B. T. Quigley, Mound City, Mo., in the Chair.

Genital Tuberculosis in the Female

Dr. W. O. Henry, Omaha: Abortions, gonorrhea, and other inflammations, injuries or contusions, and a general run-down or anemic condition may be predisposing factors in the origin and development of genital and peritoneal tuberculosis. We should be more careful and thorough in examinations of patients lest we overlook the true conditions at the time when they are most amenable to treatment. It behooves us to safeguard the public by teaching prevention and encouraging the afflicted by a favorable prognosis, unless other serious complications are also found.

Management of Genital Tuberculosis in the Female

Dr. Palmer Findley, Omaha: Genital tuberculosis in woman is rarely a direct cause of death. The fatal issue is usually determined by a primary lesion in the lung or bowel. In at least 50 per cent. of cases there are some symptoms directly chargeable to the tuberculous lesion in the genital organs. It follows that in fully half the cases there is no urgent indication for operative interference. Inasmuch as genital tuberculosis is rarely primary, we must discriminate, if we can, between the symptoms directly due to the primary lesion and those due to the secondary lesion in the genital organs. The symptoms referred to the genital organs will usually yield to palliative measures. A radical operation is rarely justified for relief from symptoms caused by genital tuberculosis. There is danger in operative interference from the awakening of a latent primary focus, from the high primary mortality in these cases and from the possible sacrifice of organs, inasmuch as spontaneous healing is a possibility as in tuberculosis elsewhere in the body. In tuberculous peritonitis the cause of death in 90 per cent. of cases is chargeable to the primary focus. In operating on patients with tuberculous peritonitis it is well to remove the tubes when infected, in order to cut off the source of supply to the peritoneum. The utmost conservatism should be exercised in dealing with ovaries and uteri in young women. The exudative type of tuberculous peritonitis is alone favorable to operation. One should not operate in the presence of a fever or an active primary focus in the body Medicinal and hygienic treatment is not to be underrated in the management of these cases. In the absence of severe symptoms directly referred to the lesion in the genitalia or peritoneum, operative measures should give way to the usual hygienic measures, at least for an extended trial.

DISCUSSION

Dr. H. C. Crowell, Kansas City, Mo.: In a large percentage of cases of tuberculosis of the genital organs the symptoms are very acute and pronounced. Whether the disease causes death immediately or not is probably open to question, but ultimately the majority of such patients, even with a local tuberculosis in the pelvis, succumb to the disease. I have had quite a number of cases in which there was no evident involvement of the lung; operative procedure has effected a perfect cure, and the patients have recovered without secondary involvement of other organs. About fifteen years ago a woman, aged 26, unmarried, came to me with what appeared to be a pyosalpinx. Examination of the discharge from the uterus did not demonstrate satisfactorily the nature of the infection, but we found large abscesses and ulceration in the posterior surface of the uterus; so extensive was the suppuration that I did a hysterectomy, and cleaned out everything thoroughly, and the woman made a perfect recovery.

Dr. W. O. Henry, Omaha: It would be a mistake to leave an active focus of tuberculosis in the pelvis or in any of the pelvic organs and expect by local treatment to get rid of it. Removal of the local focus is essential to the patient's recovery.

The Rôle of Tonus in the Digestive Canal

Dr. John M. Bell, St. Joseph, Mo.: Atony of the digestive tract exists in all gradations, from a mere slight delay in motility to absolute kinking and retention. The key-note of treatment, except in cases of more or less acute kinking, is the restoration of normal tone, not merely to the digestive canal, but to the body; not essentially drugging, but hygiene, diet, daily habits and all those measures which tend to restore vitality.

Diverticulitis of the Sigmoid

Dr. Arthur D. Dunn, Omaha: The following symptoms, in the absence of evidence to the contrary, are presumptive of a diverticulitis: (1) alternating constipation and looseness of the bowels in an individual not previously much troubled in this respect, which are accompanied by fulness, soreness or colicky pain in the hypogastrium; (2) febrile manifestations, and a sharp neutrophilic leukocytosis; (3) frequency of and pain on urination in the presence of symptoms referable to the lower colon; (4) a palpable tumor mass, usually discovered by rectal examination, often sausage-shaped and extending to the left in close relationship to the sigmoid.

Membranous Pericolitis

Dr. Charles Ryan, Des Moines, Ia.: My personal experience has been confined to twelve cases within the past eighteen months, only one of which would furnish special interest for a detailed description. The patient was a woman, aged 38, who presented symptoms of a chronic cholecystitis and chronic appendicitis. At operation there was found a well-developed membrane extending from a point about 3 inches above the caput coli to a point on the transverse colon 2 inches to the left of the median line; the transverse colon had been raised until it occupied a position approximating the anterior border of the liver, the gall-bladder covered, and the membrane spreading over the anterior surface of the stomach. The appendix was kinked, the distal end being incarcerated in a well-formed Lane's kink. Simple division of this extensive membrane and Lane's kink, with the application of sterile petrolatum to the latter, with appendectomy and cholecystotomy was the treatment. While she was greatly benefited the symptoms did not entirely disappear. The results in 12 cases at present are: complete cure, 4; great benefit, 3; recurrence to a variable degree, 3; 2 patients were operated on within the past week.

DISCUSSION

Dr. C. C. Conover, Kansas City, Mo.: I recall the case of a woman who had stenosis 3 inches to the left of the heptic flexure, with alternating constipation and diarrhea. She had been treated for neurasthenia for almost four years. She had symptoms of intestinal stenosis. The little band or pericolic membrane was removed, she recovered, and gained 25 pounds in weight.

Dr. Henry S. Munro, Omaha: With every method of treatment in this class of cases, a carefully regulated dietetic regimen, coupled with systematic exercise, must follow the operative procedure, no matter what it is.

Dr. E. W. Powell, Omaha: If we could get these patients to the internist early he could make the diagnosis and correct the condition before the patient reached the stage of the pathologic condition known as Lane's kink; but unfortunately the average patient does not consult the internist or the surgeon early.

Dr. John F. Binnie, Kansas City, Mo.: We have colons of all sorts and peculiar shapes tucked away in all sorts of ridiculous fashions, and yet they work exceedingly well. If we have a mobile cecum and a mobile (lowest) portion of the ileum, we have a loop of intestine which is pretty much in the same condition as the normal sigmoid, and the intestinal work can be carried on very well in that patient; but if we have a fixed ileum near the cecum, and a mobile cecum, then, of course, the cecum can pop around in various directions and produce temporary obstructions. In operating, I do not bother about ileac kinks and a mobile cecum very much unless I find them combined. In operative work, or in post-mortem work, when I have exposed the cecum and found it mobile, I have looked at the sigmoid and found it plastered down to the abdominal parieties. That, I think, is usually the case. Whether it is a congenital condition or not, I do not know, but I think many of these conditions are congenital.

Dr. William T. Reynolds, Kansas City, Mo.: A girl, aged 14, had trouble in the right side. We operated on her with the idea that we had to deal with appendicitis. We found the appendix comparatively normal, but she had a membrane at the head of the cecum. There was nothing to be observed in the formation of the membrane on the colon higher up. After operation she went home and was well for about six weeks. Since that time she had been having the same pain as formerly. We operated a second time and found a smooth, white glistening membrane high up on the colon which had formed in ten months.

Dr. Howard Hill, Kansas City, Mo.: We need more observation as to what causes these malformations or deviations of the colon. The looseness of attachment of viscera may be responsible primarily for angulation and things of that sort. When a patient has difficulty in propelling the contents of the intestinal tract onward, if it produces pain and great discomfort, that patient will consult a surgeon. There is no use in operating on the cecum alone, as in six or eight weeks these patients get into the same condition they were in before operation. We should do an ileosigmoidoscopy. The difference between an ileosigmoidoscopy and operations on the cecum and colon is that after an ileosigmoidoscopy the patient recovers slowly, but when he has become well he stays well.

Dr. M. J. Ford, Omaha: I wish to cite two cases. In one, on opening the abdomen we found the colon in proper anatomic position, but within an inch and a half of the cecum and caput coli; extending up over the colon for 3 inches was a distinct band running longitudinally across the colon, holding it down. This was released. The other patient was a girl, aged 22, who had the chain of symptoms which usually accompanies these cases, and was treated by various physicians for neurasthenia. On opening the abdomen I found I could not get to the head of the colon unless I broke through a number of adhesions to reach the pericolic membrane which extended clear over, and when I got down to where the appendix was I found it was normal, within a little sac, and was not adherent to the tissues around it.

Landry's Paralysis

Dr. E. M. Hummel, New Orleans: While no specific organism is likely to be proved the cause of Landry's paralysis, it seems that some condition of toxicity springing out of unwonted virulence of some one of the bacterial flora native to the body and operating under the auspices of lowered resistance will be settled on as the cause of this disease. One case I saw strongly supported this belief.

DISCUSSION

Dr. A. L. Skoog, Kansas City, Mo.: We know that with mental and physical fatigue infectious processes are more likely to be engrafted on the individual. I think that has been shown in some animal experiments, with no bacilli present.

Dr. C. R. Woodson, St. Joseph, Mo.: There can be no question but that there are cases of Landry's paralysis in which we have elevation of temperature and sphincter involvement. Some writers are disposed to believe that the disease is a polyneuritis. It has some characteristics, however, which are quite different from the ordinary types of polyneuritis and some types which are very much like it. The symmetrical symptoms are quite like those of polyneuritis.

Dr. C. C. Goddard, Leavenworth, Kan.: I recall the case of a prison physician who was apparently perfectly well up to a certain evening, when he reached out his hand to take hold of the ear of his dog and found he could not hold the ear. He tried several times to do so. Then he tried with the other hand and found he could hold the dog's ear all right. He tried to pick up different objects and hold them but could not do so. He could move and flex his fingers, but the next morning that arm (the left) was dead to the world. The other arm became involved. That day he thought he was bound to get out of bed. He threw himself out of bed and fell to the floor. My diagnosis was Landry's paralysis or acute ascending paralysis. The patient could move his feet in bed that day, but from that time he became completely paralyzed as to both sensation and motion. It started in the left arm, which is unusual, as it generally begins in the feet. His mind was perfectly clear; the pupils looked all right at the time he went to bed. He had no pain; he had to be catheterized; he could not pass urine voluntarily after the second day; after the fourth or fifth day paralysis of deglutition set in; the pulse became weaker and weaker; he gave a sighing respiration and died.

Dr. S. Grover Burnett, Kansas City, Mo.: Landry's paralysis involves the muscles of the legs, the trunk, the arms, the respiratory muscles and the throat muscles, and the story is usually ended. The patient does not die from toxemia, but from the want of air. He dies because he has become paralyzed as far as respiratory function is concerned. I have seen but one patient recover. It is a question whether or not I was correct in my diagnosis. Maybe I was not, but the patient recovered. The disease began in the lower extremities, took the usual course, extended up and involved the throat muscles. The paralysis was progressive from one six-hour period to another. In desperation I gave dram doses of fluidextract of ergot every three hours. Under the influence of the ergot the disease seemed to be checked; but we know that once in a while a few patients recover without treatment. Possibly this was one of those cases, or I was mistaken in my diagnosis.

Dr. Abraham Sophian, New York: From the studies that have been carried on during the past few years, particularly with reference to clinical and laboratory analyses, the relationship between Landry's paralysis and poliomyelitis has been established, and there is no question but that in some instances Landry's paralysis and poliomyelitis are one and the same disease. Poliomyelitis may affect any part of the central nervous system. The characteristic feature of Landry's paralysis is the ascending paralysis. The cerebrospinal findings in the two diseases are similar.

Discussion on Cancer

Dr. John F. Binnie, Kansas City, Mo.: Too much abuse has been poured on the unfavorable statistics after operative treatment for frank malignant disease in the matter of recurrence. I think that other terms should be used. After cutting out diseased tissue, if we have a reappearance of the disease within a comparatively short period, say after two or three years, it is a true reappearance of the disease, but it is not a recurrence. It means that some diseased tissue was left and still continues to grow; but when we have a true recurrence, things are somewhat different. If the growth appears again after a lapse of three years, why can it not be the original causes of the disease working again on a patient who has shown himself non-resistant to the noxious influence, so that we have a fresh incidence of the disease, not necessarily a recurrence?

DR. J. P. KANOKY, Kansas City, Mo.: When the disease is very malignant and affects the deeper tissue, the Roentgen ray will relieve, although it may not cure. In superficial ulceration or rodent ulcer, years ago I employed the actual cautery or the knife. Within the last few years I have used carbon dioxid snow. It is as efficacious as the cautery, and much pleasanter than the knife, and the cosmetic results are superior to both. Superficial cancer or so-called rodent ulcer can be treated with snow in my opinion with absolute success.

DR. H. M. LYLE, Kansas City, Mo.: There are some types of epithelioma which the carbon dioxid snow will cure, but I would not depend too much on it because it is too superficial in its action. In using the Roentgen ray there are several things that come up which the individual operator has to watch for in the way of protecting the patient. It has been my experience that it is well to begin with short treatments and give them often until you find just exactly how the patient is going to stand the treatment. Others give one or two large doses of from fifteen to thirty minutes' duration. I believe that does more harm than good.

DR. ROLLIN H. BARNES, St. Louis: I do not think that we are able to diagnose cancer of the colon early enough to expect the promising results which we can obtain from cancer in some other locations of the body, but we should carefully observe these patients who show the least indication of trouble in this region and always keep in mind cancer.

DR. W. O. HENRY, Omaha: Committees have been appointed by various societies in the United States to do what they can to enlighten the public about cancer of the uterus. Physicians who are abreast of the times, who attend regularly city, county, state and national meetings, are well informed, but there is a large class of practitioners who do not attend these society meetings, and who do not read up-to-date medical journals. These men need to be educated as well as the laity, and the way to do it is for every state society to have a publicity committee, backed by the authority of the society, to prepare proper articles for the daily press and for the weekly papers in every county.

DR. DONALD MACRAE, Council Bluffs, Ia.: This and other societies ought to take a strong stand with regard to a publicity campaign in educating the laity about cancer. In the country we see the majority of cases of cancer too late to do much, if any, good. The right time to operate on such patients is in the precancerous stage.

DR. H. C. CROWELL, Kansas City, Mo.: If one thing is of greater importance in regard to cancer than anything else, it is the education of the people. The average physician of the country is better informed on the scientific methods and procedures and the advanced treatment and advanced theories of cancer than he is on the diagnosis. I know from experience that patients are treated by one physician after another without a diagnosis of cancer having been made, when they should have been subjected to some means by which the diagnosis might have been made early enough to eradicate the cancer.

Cancer Information Committee

A committee composed of Drs. H. C. Crowell and Howard Hill, Kansas City; E. C. Henry, Omaha; Donald Macrae, Council Bluffs, and Daniel Morton, St. Joseph, was appointed to conduct a campaign of education to familiarize the public with the early manifestations of malignant disease in the interest of prompt diagnosis.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

March, V, No. 3, pp. 205-284

1 *Dietetic Treatment of Convulsions and Allied Conditions Occurring in Infants. C. G. Grulee, Chicago.
2 Significance of Pyloric Reflex in True and Pseudopyloric Stenosis in Infants. D. M. Cowie, Ann Arbor, Mich.
3 *Statistical Comparison of Mortality of Breast-Fed and Bottle-Fed Infants. W. H. Davis, Boston.
4 *Vulvovaginitis in Children. E. R. Spaulding, Boston.
5 Pancreatic Ferments in Infants in Acute Intestinal Indigestion (Alimentary Intoxication). A. F. Hess, New York.

1. Dietetic Treatment of Convulsions in Infants.—It is the general belief, says Grulee, that the calcium and magnesium salts act antagonistically to the sodium and potassium salts, the former tending to allay nervous irritability, the latter to increase it. When there is a relative increase of Ca and Mg over the Na and K, one would expect, following the reasonings on this subject, to have a decreased nervous irritability, while the opposite proposition would also be true. Grulee determined to approach the subject of spasmophilia from a somewhat different standpoint from that which has generally been taken in the past. He determined to endeavor to produce increased electrical irritability by the use of the sodium salts. Before doing this, however, a study of the metabolism of the inorganic salts in animals before and after thyroidectomy was made. In dogs in which a hyperirritability of the nervous system existed, as shown by the increased electrical irritability, and as produced by removal of the thyroid, there is no regular variation in the formula, $\frac{Ca}{Na}$ or $\frac{Ca+Mg}{Na+K}$ before and after operation, as shown by metabolic experiment. While in three dogs thus examined there was apparently some support of the proposition that the quotient of this formula is increased during the period of hyperirritability of the nervous system; in the fourth dog no such reaction could be noticed. In estimating the salt content of the brains of five dogs, the first being a control, there was regularly found a decrease in the calcium content in the thyroidectomized animals. In one instance, however the $\frac{Ca}{Na}$ formula was less than that of the control animal. No variation in electrical irritability nor severity of the convulsive period could be demonstrated by intraperitoneal injections of normal sodium and calcium salts in the quantity of 40 to 45 c.c. of sodium salts, and 2 to 4 c.c of calcium salts in twenty-four hours. Even under normal conditions, when carefully estimated, the electrical irritability in dogs varied quite widely. While food containing whey is distinctly irritating to spasmophilic infants, the sodium and potassium salts corresponding in quantity to those contained in the whey do not regularly produce the increased electrical irritability which one would expect were the sodium to be regarded as the irritating substance in the whey.

This failure of the sodium and potassium to produce results, Grulee says, may be explained either by the fact that the forms in which the sodium and potassium were given, i. e., NaCl and KCl, were not readily absorbed in the gastro-intestinal canal, or that these salts were not in themselves the irritating factors. The latter proposition would seem to be much more probable. These experiments therefore have brought little or no confirmation of the hypothesis that the increased electrical irritability in spasmophilia is the result of a disturbance of calcium and sodium equilibrium.

3. Mortality of Breast-Fed and Bottle-Fed Infants.—Of 730 babies, 533, or 72.4 per cent., were breast-fed, and 203, or 27.6 per cent., were bottle-fed. Davis estimates that 68 per cent. of all Boston babies between the ages of 2 weeks and 1 year are breast-fed; that of Boston babies with Canadian mothers only 51 per cent. are breast-fed; of those with native mothers 59 per cent.; of those with Irish mothers 73 per cent.; of those with Russian and Polish mothers 79 per cent., and of those with Italian mothers 83 per cent. Seventy-four per cent. of the deaths of these infants were among bottle-fed babies, and those between the ages of 1 and 3 months show the highest mortality, especially those having mothers born in the United States. Therefore if 74 per cent. of infant deaths above the age of 2 weeks are among bottle-fed babies and only 32 per cent. of babies over 2 weeks are bottle-fed, then of such infants the bottle-fed is six times as likely to die as the breast-fed. During July and August, 1911, the number of deaths among the breast-fed infants was only slightly increased, while among the bottle-fed infants the mortality was trebled. The bottle-fed baby apparently is more susceptible to the communicable diseases or does not possess as much stamina as the breast-fed baby effectually to combat them. The same fact is apparent also in septicemia. Bronchopneumonia and pneumonia had a total of 309 deaths between two weeks and one year with 184 bottle-fed. It was especially in the study of diarrhea and enteritis that the terrible effects of bottle-feeding were revealed. There were in Boston in 1911, in infants between the ages of two weeks and one year, 621 deaths due to this cause, 534 of which were bottle-fed. Of infants reaching the age of two weeks, one in five dies before a year old if bottle-fed, while if breast-fed only one in thirty fails to reach the one year mark. This means that the deaths of these infants would be 60 per cent. less if all could be breast-fed.

4. **Vulvovaginitis in Children.**—For two years and a half the cases of vaginitis at the Children's Hospital in Boston have been treated at a special clinic. During the two years the individual cases have been studied and the attempt has been made to gain some progress in the treatment and knowledge of this very intractable disease. The purpose of Spaulding's article is to emphasize the following five points, which stand out clearly as the result of their experience and the experience of others: 1. The prevalence of the gonococcus as the etiologic factor in cases of vaginitis, and the unreliability of bacteriologic examination in all stages. 2. The total duration of the disease, including the long periods of latency. 3. The importance of the disease on account of its serious complications and sequelae. 4. Inefficiency of treatment at best. 5. The consequent importance of prophylaxis, both at home and in hospitals.

The treatment which has given the best results in their cases is local treatment plus vaccine treatment. The local treatment corresponds to the treatment given a case of specific ophthalmia and consists in a cleansing douche followed by the instillation into the vagina of some preparation of silver. The usual directions given the mother are to use a two-quart fountain syringe in which there is a saturated solution of boric acid, and to which the smallest rectal tip is attached. This is to be given three times a day for at least ten minutes, as warm as the child can stand it, and with hot water added to it, that the temperature may be kept up. Following this three times a day, either argyrol 25 per cent., or a solution of another silver salt 1 to 1,000, is instilled into the vagina with a small rubber ear syringe. Added to this treatment they have given gonococcic vaccine, beginning with doses of fifty million and increasing twenty-five million, until four hundred million is reached. The vaccine at present is being given once a week, but previously was given twice a week, but with less rapid increase in the dose.

They have used the gonococcus vaccine in thirty-five cases. Fourteen of these cases have been acute cases, and in this class have been included all cases with profuse discharge of a month's duration or less. Six have been subacute (from two to four months' duration); fifteen have been chronic. In all, there have been 399 injections, making an average of eleven doses for each case, while in reality some cases received as many as thirty-six injections. The average length of treatment for each child was three months, while some treatments extended over eight months. Twenty of these cases still had a discharge, in some cases intermittent, and in many cases very slight, when they were lost sight of. In seven cases there was still a positive smear, although the discharge had cleared up. In only six of the cases was there both negative smears and an entire clearing up of the discharge, and three of these had a return some time within two years. So that the vaccine has not proved a specific.

Annals of Surgery, Philadelphia

March, LVII, No. 3, pp. 305-448

6 *Myositis Ossificans Traumatica. W. B. Coley, New York.
7 *Sub-Temporal Muscle Drainage by Aid of Silver Wire Drainage Mats in Cases of Congenital Hydrocephalus. W. H. Hudson, Atlanta, Ga.
8. *Thyrogenic Origin of Exophthalmic Goiter. J. H. Jacobson, Toledo, O.
9 *Cheek Defect and Its Repair by Plastic Operation. J. S. Davis, Baltimore.
10 Temporary Arrest of Heart Beats Following Incision of Pericardium for Suppurative Pericarditis. A. H. Harrigan, New York.
11 Membranous Pericolitis and Allied Conditions of Ileocecal Region. J. N. Jackson, Kansas City, Mo.
12 Carcinoma of Papilla of Vater. G. W. Outerbridge, Philadelphia.
13 Tendon Fixation. W. E. Gallie, Toronto, Can.
14 End Result of Excision of Elbow for Tuberculosis. T. W. Todd, Manchester, Eng.
15 *Arrest of Hemorrhage from Bone by Plugging with Soft Tissues. G. T. Vaughan, Washington, D. C.
16 Operating Table for Use in Animal Research. K. Stebbins, New York.

6. **Myositis Ossificans Traumatica.**—Various conditions may simulate myositis ossificans, particularly in the early stages, e. g., contusion, hematoma, myositis, periostitis, periarthritis, syphilitic tumors; but all of these conditions, Coley says, can be differentiated by means of a careful examination aided with a good roentgenogram. In periostitis and osteomyelitis, there usually is elevation of temperature, local tenderness, severe pain which is worse at night. Myositis is prone to develop in certain muscles which are seldom the site of syphilitic disease, and the Wassermann test will furnish an additional aid in differentiating the conditions. On the other hand, the age of the patients (usually young adults) and the fact that the tumor developed shortly after an injury furnish a history almost identical with that observed in sarcoma. In many cases, too, there is a striking similarity in the roentgenogram between the two diseases.

In Coley's first case, the roentgenogram had been examined by at least half a dozen roentgenologists and all pronounced the lesion sarcoma. Careful examination, however, of the roentgenograms which Coley has been able to observe personally shows this important difference: In myositis ossificans the sharp outline, corresponding to the junction of the tumor with the bone, is always present, while in sarcoma it is less distinct except in the very early stages of the disease. It was this feature which influenced him chiefly in making the diagnosis of myositis ossificans in the first case.

In the second case the same clear line of differentiation is observed in the earlier picture, although it is not so distinct in the later. Coley has seen but one case of periosteal sarcoma in which this was not true, and this happened to be a case of extremely rapid growth, apparently sarcoma, in a young adult, a woman of nineteen. The roentgenogram taken about a month after the beginning of the tumor showed a clear line without any roughness or indentations, which could easily be mistaken for myositis ossificans. In this case, however, there was the absence of a severe injury which is almost always the exciting cause in myositis ossificans, which furnished an important aid in making the diagnosis.

A further and very important point, which Coley says he has not seen noted in other articles, is the marked difference in the consistence of the tumors as determined by palpation.

In myositis ossificans the consistence is much harder than in sarcoma; furthermore, it is almost always uniform in character, whereas in sarcoma it is very apt to be soft in some places and harder in others, but there is never the bony hardness that is typical of myositis ossificans. The pain is another important differential symptom. In sarcoma there is rarely pain in the early stages, unless the tumor is situated near some important nerve, whereas in myositis ossificans pain is much more apt to be a feature in the early development of the disease. Furthermore, the early disability of the neighboring joint, as usually observed in myositis ossificans, has been seldom noted in sarcoma in the early stages. Flexion of the knee is almost lost or greatly limited, and this may occur very soon; a few days after the injury, in myositis ossificans.

The clinical history together with the characteristic features already enumerated will, in most cases, enable one to render a correct diagnosis of myositis ossificans; yet the great importance of making an early and absolutely certain differentiation from sarcoma, in Coley's opinion, justifies an early exploratory operation and removal of sufficient material for a microscopic examination. This is especially true if the tumor is located along the shaft of the bone and not in the neighborhood of a joint. In case the patient is unwilling to submit to an exploratory operation, very careful and frequent observations will soon determine the true character of the disease. If it is sarcoma, there will be steady and fairly rapid increase in size; if myositis ossificans, but very slow increase in size, if any, is noted.

7. **Subtemporal Muscle Drainage.**—In cases of congenital hydrocephalus in which drainage underneath the scalp is attempted Hudson has found a vast additional drainage capacity by using the under surface of the temporal muscle for the absorption surface by inserting under this muscle silver wire drainage mats. Where this is to be attempted the operation should be done in the following manner: The usual point for perforating the skull dura and brain, posterior and above the right ear is selected. An incision about 2½ inches long, with its curve in a backward direction, is made down to the temporal muscle. A point about an inch in front of the curved incision is selected, and the fibers of the temporal muscle separated at this point. A flat separator with its point hugging the bone closely is pushed in every direction to its line of insertion under the entire skull area of the temporal muscle. Then the skull is opened with a self-stopping spiral perforator, its bottom cleared with the smallest size self-stopping burr.

The dura is then split the full extent of the opening in the skull. The two edges of the dura are then caught with mosquito forceps and the incision held open as far as possible. Through this opening a long, dull-pointed ventricular puncturing tube is inserted into the brain until the cerebrospinal fluid flows from its open end. The depth is read off on the side of the tube, which is marked in quarter inches. The permanent drainage tube is then cut to its proper measured length, and then slipped over the puncturing tube and carefully rotated to its proper permanent location in the brain, the two lateral fixation wires being carefully preserved. The silver drainage mat, which was fixed under the temporal muscle immediately after the muscle was separated from the bone, is now fixed in position, and the fixation wires of the permanent tube carefully twisted around the central ring of the drainage mat. The temporal muscle is then carefully sewed over the mat and tube with the finest possible black silk. The incision in the scalp is also closed with the finest possible black silk.

This operation must be done under the strictest aseptic precautions, with the use of new rubber gloves and the most careful sterilization of the patient's scalp. A loose dressing finished with plaster-of-Paris bandages should be applied in such manner that no direct pressure is applied over the operation wound or the temporal region of the operated side. The greatest possible accuracy and delicacy of operative procedure should be observed.

8. **Thyrogenic Origin of Exophthalmic Goiter.**—From a review of the experimental and clinical evidences relating to the thyroid origin of exophthalmic goiter by Jacobson he draws the following conclusions: Exophthalmic goiter can and has been produced experimentally in lower animals by the injection of thyroid pressure fluid (Klose), by implantation of the thymus (Bircher), and by the injection of the macerated thyroid (Baruch). Symptoms closely resembling exophthalmic goiter can be produced in animals by thyroid feeding.

The evidence at hand indicates a close relationship between the thymus and thyroid. That the symptoms of exophthalmic goiter are due to either an excess or perverted secretion of the thyroid, with the primary disturbance existing in the thymus, the action of the thyroid being that of a "multiplicator" according to the theory of von. Mikulicz. Exophthalmic goiter has been produced in man by the excessive administration of thyroid extracts and preparations of iodin. That there are changes in the thyroid, chemically, macroscopically and microscopically, which are characteristic for exophthalmic goiter. Typical exophthalmic goiter or symptoms of hyperthyroidism (so-called exophthalmic goiter) occurs after or in connection with other affections of the thyroid, such as simple and adenomatous goiter, cancer and inflammations. That there is a characteristic blood-picture in exophthalmic goiter which disappears after the surgical removal of a sufficient amount of the diseased thyroid tissue. The successful treatment of exophthalmic goiter by measures directed toward the thyroid itself, as well as by serum therapy, proves the thyroid origin of the disease. Exophthalmic goiter can be cured by the surgical removal of portions of the gland in approximately 70 per cent. of all cases.

9. Published in the *Old Dominion Journal of Medicine and Surgery* for February, and abstracted in The Journal, March 22, p. 944.

15. **Arrest of Hemorrhage from Bone.**—The method to which Vaughan first called attention ten years ago consists in cutting a fragment of soft tissue, muscle or fascia, preferably muscle, from any convenient place in the field of operation and applying the fragment to the bleeding surface or edge of the exposed, broken or cut bone by means of the fingers. If the tissue does not adhere at once it should be rubbed into the bleeding area by some suitable instrument, as a knife handle, dissector or chisel, so that the vascular openings in the bone become plugged with little fragments of soft tissue. The advantages, he says, are obvious—the material is always present, it does not act as a foreign body, and, according to Vaughan's experience, it is always efficient.

Boston Medical and Surgical Journal

March 20, CLXVIII, No. 12, pp. 409-448

17 The Registered Midwife: A Necessity. E. F. Cody, New Bedford, Mass.
18 Midwife in Massachusetts: Her Anomalous Position. J. L. Huntington, Boston.
19 Seasonal Variation of Symptomatology of Pulmonary Tuberculosis. N. B. Buins, North Wilmington, Mass.
20 Collection of Facts, Ideas and Theories Relating to Diverse Elements that Contribute to Success in Treatment of Joint Diseases. Relationships Between Visceral Ptosis and Arthritis. Comparisons Between Mild Intestinal Toxemias and Gout. H. W. Marshall, Boston.

Bulletin of Manila Medical Society

January, V, No. 1, pp. 1-11

21 Basic Principle of Psychotherapy and Identity of All Systems of Mental Healing. R. E. L. Newberne, Manila, P. I.

Canadian Medical Association Journal, Toronto

March, III, No. 3, pp. 167-260

22 Prostatectomy-Suspension of Bladder. G. E. Armstrong, Montreal, Can.
23 Penalties of Late Diagnosis of Diseases of Urinary Tract. G. S. Gordon, Vancouver, B. C.
24 Fallacies of Existing Fatality Rates. H. W. Hill, London, Ont.
25 Municipal Health Work Pertaining to Infant Welfare. R. E. Wodehouse, Fort William, Ont.

Colorado Medicine, Denver

March, X, No. 3, pp. 71-107

26 Practical Considerations in Prostatic Surgery. W. N. Wishard, Indianapolis, Ind.
27 Deviated Nasal Septum—Its Influence on General Health; Surgical Treatment. A. C. Magruder, Colorado Springs.
28 Recent Advances in Cerebral Localization. G. A. Moleen, Denver.
29 The Friedmann "Cure." P. Hillowitz, Denver.

Indiana State Medical Association Journal, Fort Wayne

March 15, VI, No. 3, pp. 99-146

30 Relation of Defective Heart Muscle to Valvular Symptoms. S. E. Earp, Indianapolis.
31 Defective School Child. O. B. Nesbit, Valparaiso.
32 Artificial Infant-Feeding with Special Reference to Stool Examination. O. N. Torian, Indianapolis.
33 Case of Tuberculous Ulcer of Ileum and Cecum. M. F. Porter, Ft. Wayne.

Journal of Infectious Diseases, Chicago

March, XII, No. 2, pp. 127-275

34 *Relation of Calcium to Anaphylaxis. J. H. Kastle, D. J. Healy and G. D. Buckner, Lexington, Ky.
35 *Isoagglutination in Man and Lower Animals. M. Fishbein, Chicago.
36 Interagglutination Experiments with Various Strains of Sporothrix. D. J. Davis, Chicago.
37 *Statistical Study of Streptococci from Milk and from Human Throat. E. C. Stowell, C. M. Hilliard and M. J. Schlesinger, Dublin, N. H.
38 *A Motile Curved Anaerobic Bacillus in Uterine Discharges. A. H. Curtis, Chicago.
39 Conjunctival Reaction for Glanders. (Ophthalmic Test.) K. F. Meyer, Philadelphia.
40 *Fusiform Bacilli Associated with Various Pathologic Processes. G. F. Dick, Chicago.
41 Fusiform Bacilli. Isolation and Cultivation. C. Krumwiede and J. Pratt, New York.
42 *Two Methods for Obtaining Virus of Rabies, Freed from Cells of Host and from Contaminating Organisms, and Application of These Methods to Other Filterable Viruses or Glycerin-Extracts. D. W. Poor and E. Steinhardt, New York.
43 Studies on Virus of Hog Cholera. W. E. King, F. W. Baeslack and G. L. Hoffmann, Detroit, Mich.
44 *Tuberculosis of Stomach with Extensive Tuberculous Lymphangitis. K. W. Dewey, Chicago.
45 Behavior of Tubercle Bacillus Toward Fat-Dyes. H. Sherman, Chicago.
46 Intra-Vitam Staining of Tuberculous Guinea-Pigs with Fat-Soluble Dyes. H. J. Corper, Chicago.

34. **Relation of Calcium to Anaphylaxis.**—As a result of their experiments the authors conclude: first, that a 5 per cent. solution of calcium chlorid used subcutaneously is much too irritating to allow of a fair estimate of the value of calcium as an anti-anaphylactic; second, that an isotonic solution of calcium lactate used intraperitoneally, in large doses of 5 to 10 c.c., is very poisonous to male guinea-pigs, the mortality being over 62 per cent.; third, that an isotonic solution of calcium lactate used intraperitoneally, in small doses of 1 to 4 c.c., and at the proper time, does protect guinea-pigs from the anaphylactic shock resulting from milk, horse-serum, egg-white and cat-serum. In the first experiment, in which milk was used, the fact that only one pig survived the calcium leaves the question somewhat in doubt, although it is quite reasonable to infer that the calcium saved the second pig.

In the second experiment, in which horse-serum was used, there is again doubt, due to the fact that the horse-serum was not very toxic. In the third, fourth and fifth experiments, however, there is no room for doubt. In these experiments egg-white was employed as the anaphylactic agent with a mortality of 88.9 per cent., whereas the mortality from the second dose of egg-white, following the injection of an isotonic solution of calcium lactate, was only 20 per cent. The writers, therefore, are disposed to agree with Besredka that the use of calcium in the proper doses and at the proper time does protect the animal against anaphylactic shock. These investigations are being continued.

35. **Isoagglutination in Man and Lower Animals.**—According to Fishbein, there is a distinct isoagglutinative grouping possible; that in other mammals, isoagglutination is present but according to no special order, and that in frogs, as representing amphibians, it appears to be absent. It is suggested that where facilities permit, tests be made on a wide variety of species, including monkeys and higher apes, to see whether any definite gradation exists.

37. **Streptococci from Milk and from Throat.**—Two hundred and forty pure strains of streptococci isolated from milk and from the normal human throat were compared by the authors as to their morphology, Gram-stain reaction, character and amount of growth, and their quantitative acid production in seven carbohydrate and related organic substances. Hemolysis and gentian violet cultural test have been studied in part of the cultures. They have not found that any of the features other than the fermentative reactions are sufficiently correlated with one another or with acid production to assist in the fixing of the organisms in groups or in distinguishing the source of isolation. The seven organic substances tested show a definite order of availability for acid production. This order and the percentage of cultures yielding 1.2 per cent. or more of acid when grown at 37 C. for three days is shown.

According to the positive reaction—over 1.2 per cent. acid—in the test substances, 90 per cent. of the cultures may be correlated so as to fall into nine groups. Milk streptococci are distinguishable from the throat organisms of the same morphology (1) by their higher acid production in substances in which they grow, (2) by their greater independence of temperature relations, (3) by their general incapacity to ferment more complex test substances than the disaccharids. On the other hand, the throat strains in at least half the cases (1) ferment a more complex test substance and (2) in almost all cases fail to ferment a higher test substance than the monosaccharid at the room temperature.

38. **Anaerobic Bacillus in Uterine Discharges.**—In a bacterologic study of leukorrheal discharges now in progress, curved bacilli have been found by Curtis in a considerable number of cases. These bacilli are as a rule sparsely scattered among other organisms without definite indication that they play a part in maintaining the leukorrhea. Because of the small number of curved bacilli and the difficulty with which they are isolated, numerous early attempts to obtain pure cultures met repeated failures. In two later cases, however, morphologically similar bacteria were found in large numbers. One patient suffered from an infection following instrumental abortion; in the other case infection complicated labor at full term. Smears from the first patient revealed an overwhelming number of Gram-negative, curved bacilli. Stained specimens of the vaginal and cervical discharges obtained from the patient with puerperal infection contained a great preponderance of apparently identical organisms. There were also present scattered Gram-negative, fusiform bacilli, a fair number of Gram-positive diplococci and some Gram-negative diplococci. A single set of cultures from the abortion case failed to yield the desired growth and material for later cultures was not available. In anaerobic cultures from the vagina and from the uterus of the patient with puerperal infection, the bacillus was readily isolated. The presence of the bacillus in overwhelming numbers in two cases of infection, together with the fact that similar organisms are found in patients with leukorrheal discharge, makes further clinical observation desirable.

40. **Fusiform Bacilli and Pathologic Processes.**—Fusiform bacilli were found by Dick in three cases of meningitis. In one of these cases, the infection probably arose from the middle ear which is in communication with the nasopharynx in which fusiform bacilli are commonly found. In the other two cases the infection probably followed chronic bronchitis. Three cases of lung infection associated with fusiform bacilli are described, the first a bronchiectasis, the second a gangrene, and the third an empyema. Fusiform bacilli were found in a case of peritonitis following endometritis. The importance of the fusiform bacilli in causing the pathologic processes with which they were associated, must remain an open question. The negative results of all attempts to demonstrate pathogenic powers for animals suggest that the organism may have been present only as a secondary invader, as other organisms were found in all the cases.

42. **Methods for Obtaining Virus of Rabies.**—These two new methods are: first, the application of collodion sacs for the dialysis of glycerin; second, the use of aspiration for obtaining the virus of rabies from the submaxillary glands of rabid dogs. This aspiration extract is virulent when filtered through a Berkefeld filter. These methods have enabled Poor and Steinhardt to obtain a virus of rabies freed from the cells of the host and other contaminating organisms and to suspend this virus in any desired fluid. The results of their studies on

rabies will be published later. They have also done some comparative work with vaccinia, and are beginning similar studies with epidemic poliomyelitis, the virus of which, as frequently noted, has a strong likeness to that of rabies. For obtaining a dry tuberculin from the glycerin preparation, they believe the use of the collodion sacs for dialysis to be superior to other methods.

44. **Tuberculosis of Stomach.**—Dewey's case was one of tuberculous lymphangitis not associated with ulcers as the starting-point, but which, in all probability, would ultimately lead to the development of ulcers of the various types known to us from the literature. The ensemble of the conditions in this case, the fact of the general tendency of tuberculous processes to spread along lymph channels, and conclusions drawn from the literature on this subject lead Dewey to assume the lymphogenous nature of the infection not only in this case, but in the larger number of cases of tuberculosis of the stomach.

Maine Medical Association Journal, Portland

March, III, No. 8, pp. 1219-1262

47 Present Day Method of Anesthesia. W. M. Boothby, Boston.
48 Chronic Lead Poisoning from Drinking-Water. D. M. Stewart, South Paris.
49 Small-Pox. E. T. Flint, Foxcroft.

Medical Record, New York

March 22, LXXXIII, No. 12, pp. 507-552

50 Relative Value of Living and Dead Tubercle Bacilli and of Their Endotoxins in Solution in Active Immunization Against Tuberculosis. K. Von Ruck, Asheville, N. C.
51 Radical and Conservative Methods in Obstetric Treatment. G. W. Kosmak, New York.
52 Treatment of Lime Starvation. J. F. Russell, New York.
53 *High Calory Diet in Typhoid. M. H. Sicard, New York.
54 Gradually Developing Hemiplegia Due to Cerebral Neoplasm. M. H. Fussell and S. Leopold, Philadelphia.
55 State Care for Mental Defectives. M. M. Vinton, East Orange, N. J.
56 Medical Treatment of Appendicitis. B. Robinson, New York.

53. **High Calory Diet in Typhoid.**—The high calory diet in typhoid is endorsed by Sicard. This diet consists of milk as a basis and carbohydrates. Carbohydrates being the best sparers of proteids, it is this ingredient chiefly that is used to obtain the caloric increase. Carbohydrates are best supplied in the form of milk-sugar, cereals, bread, toast, crackers, baked or mashed potatoes; they are the best proteid sparers available, and milk-sugar is preferred because of its lesser bulk and high caloric value. Fats are best given as cream, butter and cocoa. The most available food for maintaining proteid equilibrium are milk, eggs and the protein containing carbohydrates. The quantity of food taken is of great importance, and depends on the requirement of each individual case; every patient should be given as much as he will take and digest without being forced; aversion to food is often dependent on lack of variety, and a person will often be tempted by liberal feeding when milk would be declined; nausea, vomiting, distention, diarrhea, undigested milk in the stools, all call for a change of feeding if they are present. The loss of weight depends, generally speaking, on the amount of food taken; under the old period of fluid diet, patients lost from 15 to 25 or more pounds during their illness; but with sufficient food the loss is rarely more than 10 pounds in severe cases; in moderately severe cases the loss is slight, and not infrequently patients will gain weight.

Vomiting seldom proves a contra-indication to the feeding of high fuel values; if any article prove to be distasteful, the patient will soon complain of it and it can be stopped; if vomiting continues the diet is to be stopped until the stomach is quiet and then resumed. Diarrhea is not common; it may be due to an excess of fat which can be easily stopped.

Distention, if due to milk-sugar, is not relieved by the ordinary means, so the sugar can be reduced; these conditions are not common, however, as patients get accustomed to fat and milk-sugar and take and handle them well.

In the twenty-nine cases cited by Sicard there were four cases of hemorrhage, two of which were large and fatal; one of these was an alcoholic subject who had delirium tremens on admission. As to the occurrence of relapses, Sicard's feeling is that it makes but little difference; patients liberally fed and those lightly fed, seen to relapse equally; there were four relapses in his twenty-nine cases. He had no cases of perforation in his series.

Of the twenty-nine patients, three died, approximately 10 per cent.; of these one died of hemorrhage, one other also died of hemorrhage who was alcoholic and who was on a low calory diet only; one died who had persistent vomiting both before and after admission, and who had but little feeding of any kind. Sicard is convinced that these patients show a cleaner, moister tongue, more comfortable mouth, less offensive breath, less emaciation, less nervous exhaustion which was shown by continuous muttering and constant picking at the bedclothes, a cleaner, healthier skin, greater comfort, less diarrhea, probably lessened mortality, and fewer complications. The most evident features of the high calory feeding are the sustenance of weight and nutrition, and the amelioration of hunger and the lessened tedium of convalescence.

Michigan State Medical Society Journal, Grand Rapids

March, XII, No. 3, pp. 149-188

57 Social Legislation and the Physician. B. R. Corbus, Grand Rapids.
58 Care of Feeble-Minded. H. A. Haynes, Lapeer.
59 Pernicious Anæmia. C. N. Sowers, Benton Harbor.
60 Use of Calcium Hypochlorites in Water Purification. F. C. Penoyer, South Haven.
61 Membranous Pericolitis or Jackson's Membrane. H. E. Randall, Flint.
62 Few Aids for General Practitioner. N. DeHaas, Fremont.

New York Medical Journal

March 22, XCVII, No. 12, pp. 581-632

63 Artificial Pneumothorax: Indications and Contraindications. S. A. Knopf, New York.
64 Idem: Technic and Results. M. E. Lapham, Highlands, N. C.
65 Shortening Uterosacral Ligaments. H. Grad, New York.
66 Homosexuality: Its Psychogenesis and Treatment. I. H. Coriat, Boston.
67 Psychic Constitutional Inferiority. M. J. Karpas, New York.
68 Experiences with Neosalvarsan. J. Kaufman, New York.
69 Surgical Catharsis. S. B. Overlock, Pomfret, Conn.
70 Removal of Mucocele of Appendix. J. W. Kennedy, Philadelphia.
71 Therapeutic Possibilities of Manual Adjustment. R. K. Smith, Boston.
72 Unconscious Impairment of Vision. S. E. Pendexter, East Orange, N. J.
73 Epidemic Cerebrospinal Meningitis. M. B. Wesson, El Paso, Tex.
74 Effect of Diplodia Zeae and Some Other Fungi on Some Phosphorus Compounds of Maize. H. S. Reed, Blacksburg, Va.

New York State Journal of Medicine, New York

March, XIII, No. 3, pp. 117-176

75 *Use of Fetal Serum to Cause Onset of Labor. A. J. Rongy, New York.
76 Fetal Overgrowth and Its Significance in Labor. G. W. Kosmak, New York.
77 Indications for Abdominal Cesarean Section, with Technic of Operation and Analysis of 352 Cases. R. McPherson, New York.
78 Delivery of Placenta and Membranes. L. Faust, Schenectady.
79 Renal Hematuria. H. L. Elsner, Syracuse.
80 Optimistic View of Migraine. E. M. Alger, New York.
81 Dispensary and Day Camp in Relation to Anti-Tuberculosis Movement. G. J. Eckel, Buffalo.
82 Exhibitions of Sections of Temporal Bone-Dry Specimens Showing Nasal Accessory Sinuses. W. M. Dunning, New York.
83 Work and Aims of County Medical Society. B. H. Wells, New York.
84 Mineral Springs of Saratoga. G. H. Fish, Saratoga Springs.

75. **Fetal Serum in Onset of Labor.**—Rongy's nineteen clinical observations fully affirm the results and findings of Von der Heide in almost every particular.

Ohio State Medical Journal, Columbus

March, IX, No. 3, pp. 105-164

85 *Diagnosis and Treatment of Syphilis. L. A. Levison, Toledo.
86 Stones in Common Duct of Liver. W. D. Hamilton, Columbus.
87 Experiences with Yankauer Treatment in Tubotympanic Trouble. H. B. Harris, Dayton.
88 Diagnosis of Puerperal Sepsis. S. J. Goodman, Columbus.
89 Metastatic Purulent Ophthalmia (Endophthalmitis Septica). F. W. Alter, Toledo.

90 Treatment of Acute Inflammation of Accessory Sinuses. J. J. LaSalle, Toledo.
91 Physician and Patient in Prevention of Malpractice Suits. W. J. Stone, Toledo.

85. Abstracted in The Journal, Nov. 25, 1912, p. 1671.

Oklahoma State Medical Association Journal, Muskogee

March, V, No. 10, pp. 441-484

92 Family Physician and Insane Patient. D. W. Griffin, Normal.
93 Management of Uterine Misplacement. R. J. Baze, Chickasha.
94 Radium Water. A. N. Lerskov, Claremore.
95 Two Hundred Obstetric Cases—Deductions Therefrom and Unusual Cases. L. H. Murdock, Okeene.
96 Disorder Due to Intense Heat. G. A. Kilpatrick, Wilburton.
97 Urinary Symptoms Caused by Uterine Fibroids. V. Berry, Okmulgee.

Texas State Journal of Medicine, Fort Worth

March, VIII, No. 11, pp. 287-320

98 Diagnosis of Duodenal Ulcer. W. B. Thorning, Houston.
99 Use of Bismuth Paste in Treatment of Chronic Suppurations. A. C. McDaniel, San Antonio.
100 Preference of Operations for Retroversions. J. M. Inge, Denton.
101 Use and Abuse of Uterine Curette. B. C. Eskridge, Houston.
102 Non-Malignant Retraction of Nipple. J. J. Terrill, Galveston.
103 Hemophilia: Report of Three Cases. J. E. Gilcreest, Gainesville.
104 Uncinariasis—Pathology and Diagnosis. L. F. Johnson, Bessmay.
105 Opium Fiend. W. C. Rountree, Fort Worth.
106 Venous Anesthesia. I. C. Chase, Fort Worth.
107 Shortcomings. E. H. Snyder, Canadian, Tex.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

March 1, I, No. 2722, pp. 425-476

1 Death by Electric Currents and by Lightning. A. J. Jex-Blake.
2 Use of Physical Constants in Toxicology. O. C. M. Davis.
3 *Intramural Spread of Rectal Carcinoma. P. P. Cole.
4 Dislocation of Metatarsus with Account of Three Cases. A. Young.
5 Application of Fungi as Styptics. A Historical Review. E. Knight.
6 **After-History of Gastro-Enterostomy for Peptic Ulcer.* A. W. Bourne.
7 *Method of Performing Gastrojejunostomy. K. Black.

March 8, I, No. 2723, pp. 477-536

8 Recent Advances in Diagnosis, Prognosis and Treatment of Heart Disease: the Polygraph. F. W. Price.
9 Certain Physical Signs of Myocardial Involvement. T. Lewis.
10 Manifestations of a Healthy Heart. W. B. Thorne.
11 Ventricular Rate in Complete Heart-Block. A. E. Naish.
12 Auricle in Mitral Stenosis. D. W. Samways.
13 Death by Electric Currents and by Lightning. A. A. Jex-Blake.

3. **Intramural Spread of Rectal Carcinoma.**—Twenty cases of rectal carcinoma, in eighteen of which the bowel investigated was removed by operation, were analyzed by Cole. The growth in every case was an adenocarcinoma. In eighteen cases the appearance presented was that of a typical carcinomatous ulcer; in one there was a tendency to mass formation approximating to the papilliferous form, while one exhibited a diffuse colloid infiltration. The ulcers presented the usual features. Their edges were irregular, rolled and everted. The long axis of the ulcer was transverse in every case, showing a tendency to involve the bowel circularly rather than longitudinally.

Another point noted with regard to these ulcers was the frequency with which a narrow tract of mucous membrane was found to be involved in cases in which clinical examination suggested that the ulcer had completely encircled the bowel. This narrow tract of apparently normal mucous membrane was always situated in the midline posteriorly. Examination of other specimens, preserved in the museum of the Cancer Hospital, indicates that this condition is so common as to be almost characteristic. The favorite site of origin of cancer of the rectum would appear to be on the anterior or lateral wall. From this point the growth spreads round the bowel. a partial indication of its progress being afforded by ulceration which begins to occur at a very early stage.

6. **After-History of Gastro-Enterostomy.**—Bourne presents the results of his study of the after-history of sixty-seven cases in which the operation of gastro-enterostomy had been performed for ulcer of the stomach or duodenum. The operations were done by many different surgeons, and for almost every clinical type of ulcer—during a period beginning in 1904 and ending in April, 1910. In the most recent cases there was an interval of at least eighteen months between the operations and the inquiry as to the present condition of the patients, while in the older cases more than five years had elapsed. Out of ninety-two cases there were seven deaths immediately following the operation (7.6 per cent.) All these deaths occurred among the first thirty-nine cases; throughout the last fifty-three cases there was no death. Of the ninety-two cases of the series, sixty-eight have been traced; of these three have died in the interval (4.4 per cent.).

Reviewing the results of this series broadly, Bourne says that as a general rule gastro-enterostomy is excellent for men of middle age who suffer from duodenal ulcer, especially if associated with some pyloric stenosis, whereas failure generally follows operation in cases of young women suffering from gastric ulcer.

Thus, of 12 females under 35—all subjects of gastric ulcer—ten cases were complete failures and two only were successful. Some of these cases were in young and anemic women, and on opening the abdomen no ulcer was found. There were four cases in which no ulcer was discovered, and of these three did badly. Probably in these four cases no ulcer existed, and it is clear that operative treatment could have been of no avail.

A more exact knowledge of the symptomatology and morbid anatomy of the ulcer might enable us to predict, with even more confidence, the result of gastro-enterostomy. The immediate mortality of ninety-two cases was 7.6 per cent., but of the last fifty-three cases it is *nil*. The general results are: 43 per cent. excellent; 38 per cent. bad. Prognosis is much better when the patient is over 40. According to sex, 69 per cent. of males are cured; 28 per cent. of females are not improved. The duration of symptoms is of no assistance in forecasting the result of operation. The length of time elapsing between the meal and the onset of the pain is of great importance; the longer it is the better the outlook. Duodenal ulcers yield very much better results than gastric ulcers; the gastric give 38 per cent. of cures, duodenal 70 per cent. of cures. Cases of pyloric stenosis yield the best results. The degree of hyperchlorhydria is of importance, cases showing a total acidity of over 0.2 per cent. reacting well, cases with normal acidity doing badly.

The improvement effected by the operation is probably due to the relief of dilatation, pyloric spasm and hyperacidity by the drainage of the stomach. Failures may follow the closing of the anastomosis. The position of the anastomotic opening on the posterior wall of the stomach may be of great importance. Failures may be due to: (a) recurrence or failure to heal of the original ulcer; (b) formation of jejunal ulcer. Apparent relapses: (a) adhesions—causing pain, vomiting, etc.; (b) carcinomatous degeneration. Cases in which an ulcer is not found at operation do badly.

7. **Method of Performing Gastrojejunostomy.**—The method described by Black has been used in twenty-six consecutive operations with two fatal results. In one case (of very advanced carcinoma of the pylorus) the patient died from exhaustion two days after the operation; and in the other (of duodenal ulcer) the patient, who had previously undergone an operation for some pelvic disease, died three weeks after an apparently successful gastrojejunostomy operation, from the effects of an abdominal abscess, the cause of which was not ascertained, but which, it is believed, was unconnected with the gastrojejunostomy operation. The method of operation is described as follows: After the abdomen has been opened in the usual way, and the diseased area examined, the stomach, transverse colon and great omentum are over on to the abdominal wall, so that the posterior wall of the stomach is uppermost. The transverse mesocolon is then cut through and the stomach drawn through the opening.

Two short-bladed forceps are then applied, one to each end of the portion of stomach selected for junction with the jejunum. This portion of stomach—that is, the portion lying between the two forceps—is not "clamped" with a forceps, but is left "free." The omission to check, by clamping hemorrhage and gastric contents is a special feature of Black's modified method of operation. The edges of the cut in the transverse mesocolon are fastened, with a few stitches, to the stomach wall. The next step is to select a portion of the jejunum for junction with the stomach. Each end of the selected portion is grasped with a short-bladed clamp forceps of the same kind as previously applied to the stomach. By means of these two pairs of forceps the portions of stomach and jejunum which are to be connected are brought close together and held side by side. Sponge cloths are then packed round the exposed portions of stomach and jejunum. With a Lembert suture the outer coats of the stomach and jejunum are then stitched together for a length of about 4½ inches. Openings of the requisite length (3½ to 4 inches) are made in both the stomach and the jejunum. When the stomach is opened its larger vessels are secured and ligatured. This is a special feature of the operation, the object being to check hemorrhage during the operation and to prevent postoperative hemorrhage.

The next step is to join the opening in the stomach to that in the jejunum. There are four rows of stitching. The first row is simply peritoneal stitching. The second row, just in front of the first row, joins one side of the opening in the stomach to the corresponding side of the opening in the jejunum; this row of stitches secures the whole thickness of the stomach wall to the jejunum. And, similarly, the third row, joining the other side of the opening in the stomach to the other side of the opening in the jejunum, extends to the whole thickness of the walls of the stomach and jejunum. This third row closes the openings in and completes the junction of the stomach and jejunum. The fourth row of stitches, similar to the first row and corresponding to it, on the other side of the openings, is simply a Lembert peritoneal continuous suture. The sponge cloths are then removed and the stomach turned down and replaced in the abdominal cavity, which is closed in the usual way.

Journal of Laryngology, Rhinology and Otology, London

March, XXVIII, No. 3, pp. 113-168

14 Sir Felix Semon—His Work and Its Influence on Laryngology. P. McBride.
15 Diffuse Osteomyelitis from Nasal Sinus Suppuration. D. McKenzie.
16 Some Dental Aspects of Rhinology. J. H. Gibbs.

Lancet, London

March 1, I, No. 4670, pp. 583-662

17 Surgery of Thyroid, with Special Reference to Exophthalmic Goiter. J. Berry.
18 Elements of Prognosis in Pulmonary Tuberculosis. J. M. Bruce.
19 *Typhoid and Paratyphoid Vaccination with Live Attenuated Vaccines; Mixed Vaccines. A. Castellani.
20 Should a Man with Miner's Nystagmus Work? S. Riseley.
21 Perforation of Gastric or Duodenal (Pyloric) Ulcers. E. M. Corner.
22 Contraction Ring as Cause of Dystocia. C. White.
23 Summary of 340 Cases of Pulmonary Tuberculosis. J. C. Voigt.

March 8, X, No. 4671, pp. 663-736

24 *Peritoneal Adhesions. J. E. Adams.
25 Surgery of Thyroid, with Special Reference to Exophthalmic Goiter. J. Berry.
26 Principles of Percussion and Auscultation. F. Müller.
27 Blood in Cancer with Bone Metastases. G. R. Ward.
28 Fatal Hematemesis in Case of Hepatic Syphilis. D. E. Core.
29 Case of Subcortical Cerebral Tumor, Tuberculous in Nature, Removed by Operation; Recovery. G. Hall and H. B. Angus.
30 Treatment of Pulmonary Tuberculosis. N. D. Bardswell.

19. Typhoid and Paratyphoid Vaccination.—Castellani says that the use of live attenuated vaccine prepared according to the method introduced by him in 1904 is harmless. In preparing the vaccine the strain used should be non-virulent but rich in antigen, as found out by animal experiments. Such vaccine in the lower animals, and probably in man, too, gives rise to a higher degree of immunization than obtainable with dead vaccines. It must be stated, however, that in man the immunization obtained by two inoculations of this vaccine or any of the dead vaccines is never complete; it is only partial. Cholera and dysentery attenuated live vaccines can be obtained by using a somewhat similar method as that for preparing the typhoid vaccine; but for the dysentery vaccine peptone-water cultures and not broth cultures should be used, as these give rise to an extremely painful infiltration at the site of inoculation.

Castellani has no personal experience with the sensitized live vaccine prepared in 1911 by Metchnikoff and Besredka, but their results seem to be extremely good, as shown by Alcock. The experimental work of these observers on live vaccines is of great importance, having demonstrated that chimpanzees can be rendered immune to typhoid only by the inoculation of living vaccines, either sensitized or non-sensitized. Various mixed vaccines can be prepared, either dead or live attenuated vaccines. The inoculation of such mixed vaccines is harmless, and apparently in the lower animals they induce a degree of polyimmunization, the blood developing protective substances for each of the germs inoculated. Castellani is of the opinion that in countries where paratyphoid A and B are endemic besides typhoid, a mixed vaccine typhoid + paratyphoid A + paratyphoid B should be used. If a live mixed vaccine should be objected to, a dead mixed vaccine can be used with satisfactory results. The inoculation of such vaccines as shown by him since 1909 is harmless, and it is probable that they give a certain degree of immunization for all three infections.

24. Peritoneal Adhesions.—In those cases in which gauze was fixed in position, as in a drainage wound, Adams found that fairly firm adhesions form within a few hours, and they form more quickly in an infected than in a sterile wound. Sterilized sponges were placed in the peritoneal cavity of guinea-pigs and left in position for periods varying from one to six days. In every instance the sponge was found adherent to the omentum, not to the intestine, and the density of the adhesions was directly proportional to the length of the sponge's stay in the abdomen; after one day it was easily detached from the omentum; after six days the sponge was embedded in the omentum. In every case the sponge was saturated with blood-stained fluid, and from this films were made by gently squeezing the sponge, and these were treated with Leishman's stain. The cells present were red blood-corpuscles, finely granular leukocytes, lymphocytes and endothelial cells, and while red cells were always numerous, the films exhibited a progressive, proportional increase in both lymphocytes and endothelial cells.

Further experiments were carried out on rabbits, and a number of sterile sponges were placed in different parts of the peritoneal cavity, being left *in situ* for varying periods. In a very large proportion of these cases the sponge was taken up by the omentum and was not adherent to the intestine, but where it had escaped the embrace of the omentum firm adhesions were found between sponge and bowel, or between sponge and solid organs. Pressure and peristaltic activity both played a part in the ultimate result, for in the case of sponges placed between the liver and the diaphragm the latter remained unattached, while the sponge was found partially embedded in the liver substance, so that only its upper surface lay exposed. Sponges which were placed in the pelvis were sometimes adherent only by that surface which was the lower in the customary attitude of the animal. If adhesions were present between intestine and sponge it was very rarely the small bowel which was implicated, and a reasonable explanation of this is afforded. In one experiment a sterile sponge was left in position for one month, and it had then become adherent to both small and large intestine. Microscopy revealed healthy gut with fibrosis of its serous coat, and a broad band of fibrous tissue passed between the sponge and the colon. Cultures from the sponge were sterile. Microscopic examination of these non-infective adhesions showed evidence of well-formed fibrous tissue after the third day, and a specimen obtained seventy-two hours after a sponge had been placed between the diaphragm and the liver showed a horizontal palisade of fibroblasts over the congested liver capsule, and, on the distal side, masses of fibrin surrounding cotton fibers, with numbers of finely granular leukocytes and some endothelial cells.

Next Adams experimented with drainage-tubes. The tubes were fixed in position and buried beneath the sutured abdominal wall; lateral openings were closed in a very short time, and in twenty-four hours the whole of the tube was plastered over with newly-formed tissue consisting of fibrin containing numbers of red blood-corpuscles and degenerated finely granular leukocytes. This, Adams believes, tends to show that tube-drainage of the peritoneum, unless there is an abscess cavity with well-defined walls, is of very limited value, and he voices the belief that in septic cases the presence of a tube may, by its pressure, favor the transmigration of organisms from the interior of the gut to the infected area; and this view is supported by the clinical observation that there is often very little discharge until the third or fourth day after operation, when, by the action of organisms, leukocytes and the body fluids, liquefaction of the inflammatory tissue will have taken place.

In the course of Adams' investigation many methods were utilized to induce fibrosis, but only one proved invariably successful, and that was the introduction of sterile foreign bodies. After the removal of sponges adhesions have practically always been found between the omentum and bowel, or between intestinal coils only; to ensure the formation of the latter the omentum has been removed at the operation for insertion of the sponge. Other methods employed have been scarification of visceral surfaces and of the parietal peritoneum, the injection of chemical irritants and of emulsions of sand and chalk.

In the inoculation experiments the omentum always played an important part in the changes which occurred, and the results of intraperitoneal injection of 4 c.c. of a 15 per cent. sterilized emulsion of silver sand in guinea-pigs are of interest. Nine inoculations were performed on one day, and the peritoneum was examined at periods varying from three days to fourteen weeks. In every case there was a granulomatous mass on the parietal peritoneum containing particles of sand close to the injection puncture, and these areas, a quarter of an inch wide and raised slightly above the surrounding surface, were often multiple. In seven of the animals the omentum was lightly adherent to the granulomata, and the only two in which it was free were examined after thirty-seven and ninety-five days, respectively. In the last case it appeared that the peritoneum had recovered from the irritation, since there was scarring, but the granulomata were very small. In six instances a portion of the omentum was cut off at the postmortem and dropped into a broth tube; five of these were sterile; the sixth gave a pure culture of a *Staphylococcus albus*, and in this animal the omentum was found plastered over the surface of the liver. In two cases definite fine bands of fibrous tissue were present, in addition to omental adhesions.

Similar experiments were carried out on rabbits, the sand emulsion being introduced by open operation. After eleven days the parietal peritoneum was studded with nodules of a grey-yellow color, raised about a quarter of an inch above the surface, and similar nodules with pointed tags were present on the large intestine; the small bowel was entirely free from these granulomata. After twenty days it was found that definite fibrous bands passed from the colon to the parietal peritoneum. Microscopy of the inflammatory tags found after eleven days revealed connective-tissue cells arranged in whorls and surrounded by fibrous tissue; in the central parts of the section giant cells were seen, and between the true fibrous tissue and the connective-tissue cells numbers of elongated oval fibroblasts were present. The absence of blood-vessels was striking.

Chemical irritants were found to be much less reliable in the production of adhesions, although they caused marked endothelial proliferation, excess of exudation and occasionally fibrinous agglutination of the viscera. The effect of scarlet red was absolutely negative as a producer of peritoneal adhesions. With regard to scarification of serous surfaces, an attempt was made in a number of experiments to ascertain whether intact peritoneum readily adheres to raw areas, or whether two raw surfaces are required to ensure the formation of adhesions. It was found, in the first place, that merely rubbing an endothelial surface with sterilized gauze was not to be relied on to excite such cellular proliferation, and that such irritation could be rapidly recovered from without showing any definite traces of injury or repair. Secondly, linear scarification with the point of a scalpel was often repaired with very little evidence of change. Lastly, where definite areas of the wall of the stomach or colon were denuded of their peritoneal coat it was almost certain that the omentum would become adherent if the bare area lay within its field of excursion. Adams' investigations into infective adhesions were directed to the study of the changes which followed the introduction of cotton-wool sponges inoculated with broth emulsions of agar cultures of such organisms as the *Staphylococcus aureus* and the *Bacillus coli*. It was by no means certain that a pure infection with one organism will not become a mixed bacterial infection; in fact, it seems probable that such change will occur. Using at first excessively small doses of the *Bacillus coli*, it was found that adhesions developed more quickly than around aseptic foreign bodies, and the same organism was recovered in pure culture up to three days after the operation. With the *Staphylococcus aureus* the adhesions were less dense, and in a case in which one sponge was placed between the diaphragm and the liver and another in the pelvis, the latter was free from adhesions, whereas the former was partially sunk into the upper surface of the liver. Cultures from the upper sponge were sterile, while from the lower an attenuated growth of a white staphylococcus was obtained. This appears to show the bactericidal action of the peritoneum and the superior power of absorption possessed by that covering the diaphragm. In this case only a single platinum loop of a twenty-four-hour broth culture of the organism was used, and the subsequent cultures were taken at the end of three days. When larger doses were employed the changes were correspondingly more extensive and more rapid.

In connection with infective adhesions the result of applying pure phenol to the serous coat of the large intestine is of interest. One drop of this chemical irritant was applied on the point of a pair of artery forceps to an area, half an inch in diameter, of the surface of the colon, and also to several smaller spots on both large and small intestine. The serosa became white and lost its polish, but it still moved freely on the subjacent muscle; the omentum was not touched. The abdomen was reopened at the end of a week; the small intestine showed no change, and all traces of the caustic had disappeared. In the case of the large bowel several small areas showed thickening and proliferation of inflammatory origin similar to that seen after scarification with the point of a scalpel. At one spot, corresponding to the larger area of carbolic cauterization, a very vascular band of omentum was adherent. A portion of this was excised and dropped into a broth tube; a pure growth of the *Bacillus coli* was obtained. The adhesion was not divided until three weeks after the first operation, and the *Bacillus coli* was still present. Excision of nearly the whole of this band failed to prevent its forming again, but when the animal was killed two months after the first operation cultures from the reformed omental band proved to be sterile. In this case it appears probable that the adhesion was largely due to the presence of the colon bacillus, which had passed through the damaged serous coat of the gut, and although the infection gradually died out its ill results remained in the form of permanent fibrous tissue.

Practitioner, London

March, XC, No. 3, pp. 513-644

31 Prevention of Malingering Under National Insurance Act. J. Collie.
32 Cholelithiasis. J. Sherren.
33 Idem. W. Bain.
34 Suppuration in Nasal Sinuses. C. W. M. Hope.
35 Cavernous Sinus Thrombosis. A. Dighton.
36 Treatment of Adenoids and Tonsils. E. Ward.
37 Ear, Nose and Throat Work in General Practice. H. P. Costobadie.
38 Recent Work on Vaccine Treatment. A. Fleming.
39 Progress of Study of Diseases of Women During 1912. F. J. McCann.
40 Oxygen as Adjuvant in General Anesthesia. H. R. Phillips.
41 Electrical Operative Treatments for Diseases of Skin and Mucous Membrane. W. K. Sibley.

42 Clinical Significance of Blood-Pressure Records. L. T. Thorne.
43 Diagnosis of Congenital Syphilis. H. L. McCarthy.
44 Medical Certificates of Lunacy. G. K. Aubrey.
45 Salicylate of Iron. M. C. S. Lawrance.

Sei-I-Kwai Medical Journal, Tokyo

February, XXXII, No. 2, pp. 9-15

46 *Two Cases of Tumor of Spinal Cord. S. Sato.
47 Hemolytic Action of Adrenalin. S. Kariya and H. Tanaka.
48 Nutrition of Eggs of Schistosomum Japonicum and Changes They Undergo Under Action of Various Physical and Chemical Agents. Y. Miyakawa.
49 Blackwater Fever and Its Clinical Study in Korenko, Formosa. K. Nakagawa.
50 Experimental Study on Cause and Nature of Beriberi. R. Yamagiwa, T. Koyano, H. Midorikawa and T. Mogi.

46. **Tumor of Spinal Cord.**—One of the cases reported by Sato was an extradural fibrosarcoma of the cervical portion, which caused a strong pressure on the cord and interfered with the movements of the body and limbs to a considerable extent. These motor paralyses recovered, however, almost completely through the extirpation of the tumor. The second case was a meningitis spinalis chronica circumscripta of the conus medullaris, which caused almost the same clinical symptoms as the tumor of the spinal cord, namely, the paralysis of both the lower extremities. In this case the movements of the left limb have remarkably recovered through the loosening of the adherent spinal membranes and the resection of the necrosed part on the right side of the cord. From these experiences the author raises the following points as noteworthy: The disturbance of the motility in the limbs which was caused by the pressure of a tumor on the cord can be relieved by the removal of the cause—tumor—within a few hours even when it has existed for a few years, and patients always get better in another year and a half. In the first case the recovery of the motor disturbances occurred more quickly and markedly than that of the sensory disturbances, and in the second case it was just the reverse. The extirpation of tumors of the spinal cord is not a very severe operation, and one can resect two or three spinal arches without subsequent disturbances. The sarcoma occurs most frequently in the statistics of operations by various authors and the fibroma comes next to it. The results of the operation are good in the cases of the tumor of the dorsal cord, but bad in those of the lumbar region.

Annales de Gynécologie et d'Obstétrique, Paris

February, XL, No. 2, pp. 65-128

51 *Uncontrollable Vomiting of Pregnancy and Retroversion. A. Herrgott.
52 *Cystoscopy in Determining Operability of Cancer of Uterine Cervix. P. Cruet. Commenced in No. 1.
53 Salvarsan for Syphilitic Pregnant Women. C. Sauvage. Commenced in No. 1. (See Abstract 34, p. 788.)

51. **Uncontrollable Vomiting of Pregnancy.**—Herrgott emphasizes that the cause of the uterine vomiting varies in different women. In a recent case myelitis and polyneuritis developed in the course of the uncontrollable vomiting, and the patient died thirty-seven days after the pregnancy had been interrupted. Necropsy showed degeneration of the nerve fibers and cells analogous to the lesions produced by certain poisons, arsenic for example. In another group of cases, however, some displacement of the uterus is responsible for the vomiting, retroversion or retroflexion. Reflex influences from this source often induce coughing and dyspeptic derangement outside of pregnancy, and in a pregnant woman may bring on the uncontrollable vomiting. Correction of the displacement puts an end at once to all trouble from this source, as he illustrates by a typical example from his own experience. The vomiting returned after a first correction of the displacement and it was found that the uterus had slipped back into its old position. The displacement was then corrected anew and the uterus held in place with a pessary and the vomiting was arrested at once and permanently.

52. **Cystoscopy in Case of Cancer of Uterine Cervix.**—Cruet's final conclusions from study of ten operable and seventeen inoperable cancers are that simple bulging of the floor of the bladder with or without slight disturbances in the local circulation is of no moment. No complications developed in any case of this kind. Pronounced ridges and valleys in the floor of the bladder are a sign of adhesions, generally of inflammatory origin, which will render it difficult to loosen up the bladder and ureters. Diffuse edema in parallel folds was usually a sign of numerous adhesions, sometimes connected with the cancer and always enhancing the difficulty of the operation or rendering it futile. The edema was never encountered in the operable cases. Compression of the ureter entails irregularity and delay in the evacuation of urine into the bladder, and the force of the jet is impaired. There is liable to be a spasm of the outlet and sometimes a stiffening of the adjoining mucosa after the ejaculation. These signs of compression of the ureter locate the site of the cancer, and the absence of these signs is presumptive evidence that the trouble is of non-malignant nature. When in doubt whether to operate or not, the cystoscopic findings will often decide for or against an operation. (See abstract of first instalment, THE JOURNAL, March 8 p. 788.)

Archives Générales de Médecine, Paris

February, XCII, No. 2, pp. 101-192

54 Paraffin Prosthesis and Deformity of the Nose. M. Lagarde.

Archives Mensuelles d'Obstétrique et de Gynécologie, Paris

February, II, No. 2, pp. 113-224

55 Salvarsan and Neosalvarsan for Pregnant and Parturient Women and New-Born Infants. J. Lemeland and H. Brisson.
56 Carbon-Monoxid Poisoning of Woman Eight Months Pregnant and of the Fetus. (Dosage de l'oxyde de carbone dans le sang maternel et dans le sang fœtal.) V. Balthazard and M. Nicloux.
57 Congenital Malaria. Tissier and Brumpt.
58 *Primary Malignant Tumors of the Vagina. M. Virenque.
59 Lymphatics of the Vulva and Vagina. C. Girode.

58. **Primary Cancer of the Vagina.**—Virenque reviews the various types of primary malignant tumors of the vagina and reports a case of epithelioma treated by vagino-abdominal colpohysterectomy by a technic described in detail. He reviews the methods of others, remarking that with all the prognosis is grave. Postoperative fatalities are not rare and recurrence is constantly threatening.

Bulletin de l'Académie de Médecine, Paris

February 25, No. 7, LXXVII, pp. 109-135

60 From the Seat of War. (La chirurgie de guerre en Bulgarie.) O. Laurent and E. Delorme.
61 *Dysenteric Abscess in Liver Perforating into Bronchus. Rapid Recovery under Emetin. A. Chauffard.

61. **Efficacy of Emetin in Amebic Disease.**—Chauffard's communication was summarized in the Paris Letter in THE JOURNAL, March 22, p. 917. His success in this case confirms the clinical experiences of others and apparently demonstrates that emetin is a specific for amebic disease, like quinin for malaria. The young man had contracted dysentery in northern Africa and only transient improvement had been obtained by repeated courses of treatment with serotherapy and silver nitrate. After about a year a large abscess in the liver perforated into a bronchus and ran a debilitating course of alternating evacuation and retention of pus for five months, when complete recovery followed a five-day course of a soluble salt of emetin. The charts and Roentgen findings "before and after" accompany the article. The results observed explain the benefit from ipecac used empirically in Brazil. They also confirm the dual nature of dysentery—the bacillary form amenable to serotherapy, the amebic form to emetin.

Journal de Chirurgie, Paris

February, X, No. 2, pp. 129-272

62 *Extraction of Intercostal Nerves in Treatment of Gastric Crises. (L'opération de Franke.) L. Sauvé and J. Tinel.

62. **Operation on Intercostal Nerves for Gastric Crises.**—Sauvé and Tinel have applied Franke's operation in three cases of tabetic gastric crises and have found records of ten others in the literature. They summarize this material and give twelve illustrations of the technic. There were two fatalities in the thirteen operations; the crises recurred at once unmodified in two cases and in three after a longer or shorter interval. Five of the patients have been cured but the length of the interval

since is not known. Only one patient has been completely cured for over eleven months to date. These figures show that the operation is serious and that it is not always successful, but still it is the least dangerous and the most easily executed of all the operations for gastric crises that have been suggested to date. The gastric crises subside spontaneously when the irritation of the spinal roots has led to complete destruction, as they are then no longer capable of transmitting sensation. In the severe cases showing no tendency to spontaneous retrogression or amelioration under medical treatment, operative measures should be considered. Förster's operation is logical and effectual, but enough roots must be resected to answer the purpose—from the fifth to the twelfth dorsal roots—but this technic is dangerous; Hovelacque compiled forty-nine cases last year with ten deaths and five paraplegias. The risks are too great for this operation, except as a last resort. Franke's operation does not directly interrupt the reflex arc but by tearing out the intercostal nerves the ganglion beyond is liable to degenerate and thus hasten the destruction of the irritated roots. Its simplicity commends it so that it might be proposed as the first operative measure in serious gastric crises. Sauvé and Tinel think that the same result might be obtained by simply throwing a ligature around the dorsal roots between the ganglion and the dura. This acts also on the anterior roots, but this occurs also with the Franke technic and has been found harmless. The only inconvenience seems to be an occasional slight paresis and relaxation of the abdominal muscles in the epigastric region. Sicard and Demarest recently have applied this ligature but combine with it resection of the spinal ganglion. This complicates and lengthens the operation and exposes to danger of hemorrhage. They reported a sudden arrest of respiration and slowing of the pulse, all briefly transient, as the ligature was applied. Sauvé and Tinel declare in conclusion that simple ligation seems to offer the least risk and the maximum of simplicity while it logically arrests the functioning of the irritated nerve roots and interrupts the reflex arc responsible for the gastric crises.

Presse Médicale, Paris

February 26, XXI, No. 17, pp. 157-164

63 *Neurasthenia. (Compréhension de la neurasthénie.) J. Dejerine and E. Gauckler.

63. **Neurasthenia.**—Dejerine and Gauckler say that in a series of 300 patients in the last few years who had come to them with the diagnosis of neurasthenia, not one presented any of the symptoms supposed twenty-five years ago to be characteristic of neurasthenia. Only three symptoms were common to all, namely, lassitude, depression and a tendency to become easily fatigued, and the special feature of neurasthenia is that nothing can be found to explain the lassitude and depression. In this recent series of 300 cases they took special pains to ascertain the exact way in which these symptoms first developed, and they found that there had been some mental disturbance in 34 per cent.; some organic derangement in 40 per cent. and some emotional stress in 25 per cent. of the total 300. In the first group there had been a typical attack of melancholia or depression from a periodical psychosis or actual psychasthenia or hypochondria. Suggestion did not seem to play any part in the primary development. In the group of organic disorders thyroid influences were apparent in 3 per cent. of the total; in others malaria or arteriosclerosis were certainly to be incriminated. In 6.66 per cent. simple debility was responsible. These individuals got along without disturbance in their usual mild sedentary routine but under unusual physical stress the "neurasthenia" developed at once. They weighed much less than their appearance would indicate. In 15 per cent. of the total, simple fatigue from some overexertion brought on the trouble. Although capable of normal efforts, they were unable to recuperate after some unusual strain. Others had some unsuspected focus of periostitis, floating kidney, liver trouble, tuberculous lesion in the xiphoid appendix or other organic affection which had escaped detection at the time the "neurasthenia" had been diagnosed but later revealed its true character. The diagnosis of a purely "nervous" disorder is often merely a makeshift differentiation. In thirty of the series of 300 cases of neurasthenia under discussion an unsuspected organic lesion made its existence known a little later. In over 25 per cent. some primary emotional factor predominated. In 7.66 per cent. this was long continued brooding over loneliness or the like; in 17.66 it was some one serious emotional stress. But in all cases of neurasthenia an emotional factor is evident; so much so that neurasthenia might even be defined as the grouping of disturbances developing on a predisposed soil directly or indirectly, primarily or secondarily, under the influence of persisting emotional states —the specific pathology of emotion.

Revue Mens. de Gynécologie, d'Obstétrique et de Pédiatrie, Paris

February, VIII, No. 2, pp. 73-148

64 *Management of Women after Childbirth. (Sur les divers éléments de la technique rationelle du traitement myogénétique et ambulatoire des suites de couches.) L. Bouchacourt.
65 *Menstruation in the Gouty Diathesis. L. Pierra.
66 *Dystocia from Excessively Large Children; Successful Induction of Premature Delivery; Two Cases. V. Le Lorier.
67 *Carbon Monoxid Poisoning Responsible for Anemia in City Infants. (Les facteurs urbains de l'anémie chlorotique des nourrissons et son traitement préventif.) P. F. A. Delille.
68 *Iron in Anemia of New-Born Infants. (Le traitement martial de l'anémie post-hémorragique du nouveau-né et le rôle eutrophique du fer chez certains nourrissons.) P. F. A. Delille.

64. **Position After Delivery.**—Bouchacourt discusses the various measures needed in management of parturients during convalescence. During the first twenty-four hours after delivery he has the woman lie flat on back, side or abdomen, without a pillow. This averts danger of syncope from cerebral anemia if there has been much loss of blood. The second day he has the shoulders raised with a couple of pillows, believing that this sloping position aids in the evacuation of the lochia. Reclining on the stomach facilitates the passage of gases and combats constipation. He does not permit the patient to sit up in bed until after the first week and then only in the position as in a reclining chair, the legs extended. He has her exercise by raising the trunk and bending and extending the legs as she reclines, bending and stretching the pelvis as she lies on her stomach and occasionally permitting her to sit on the edge of the bed, the legs pendent, but only for a very brief period. Faradization with the negative electrode on the perineum or in the rectum promotes the involution of the uterus and recovery of tone by the abdominal musculature in general.

65. **Menstruation in the Neuro-Arthritic.**—Pierra applies this term to women with the gouty diathesis, inclined to sluggishness in the vital processes and auto-intoxication. There are two types, the thin form with a tendency to neuralgia and sudden violent hemorrhages, and the obese form with relaxation of the tissues and inclination to ptosis and congestion. In both ther is a constant tendency to hemorrhage and to recurring pai Amenorrhea is exceptional; the gynecologic disturbances m suggest attacks of gout in the viscera. The women in this cl of neuro-arthritics almost invariably have more or less m strual disturbance; the menses are nearly always pain often abnormally frequent, profuse and prolonged. There i tendency to catarrhal glandular derangement. Puberty occ early, the menopause late; both types are accompanied hemorrhages and pain. Every patient with vague geni troubles not dependent on any organic lesion in the uterus adnexa should be suspected of belonging to this class of slu gish nutrition, and treatment should be general to combat t tendency.

66. **Premature Delivery for Extra Large Children.**—Le Lor had two patients whose children were so large that norn delivery was impossible. In the following pregnancy he ke watch of the growth of the fetus and when it had reache the normal size of an average fetus at term, he induced artificial delivery a month before term. The children were easily delivered and mother and child have been in the best of health since. The women were normally built but their children were extra large.

67-68. **Anemia in Infants.**—Delille became convinced that poisoning from illuminating gas or defective stoves is the cause of the anemia in many new-born infants. To counteract this he gave iron systematically to the mothers during the pregnancy, two courses of protoxalate of iron in daily doses of 0.2 gm., each course lasting three weeks. In the five cases reported in detail the effects were excellent, none of the children showing signs of anemia, when all the children previously born in the family had been markedly anemic. He also administered the same drug for three weeks, in a daily dose of 0.05 gm., to a young infant with intense anemia following profuse melena the second day after birth. He has applied the same treatment to a number of others, either alone or accompanied by one drop of Fowler's solution a day. A three weeks' course of this kind seems to be a powerful stimulant for the nutrition in general. All the infants began to thrive at once. Carbon monoxid is especially prevalent in the air at Paris, he says, from escaping gas and primitive methods of heating, and iron is needed to counteract its effects on the blood.

Revue Pratique d'Obstétrique et de Gynécologie, Paris

February, XXI, No. 2, pp. 33-60

69 Supplementary or Vicarious Menstruation. (Les hémorragies supplémentaires des règles et les règles déviées.) P. E. Weil.
70 Tuberculous Peritonitis Developing after Childbirth. (Cas de granulie péritonéale dans le post partum chez une malade présentant une tuberculose annexielle ancienne.) P. Fabre and Bourret.

Semaine Médicale, Paris

February 26, XXXIII, No. 9, pp. 97-108

71 Experimental Study of Connection Between Excessive Functioning of Viscera and Morbid Conditions in the Corresponding Vascular System. (Contribution expérimentale à l'étude des rapports entre l'hyperfonctionnement visceral et la morbidité du réseau vasculaire correspondant.) C. Frugoni.

March 5, No. 10, pp. 109-120

72 Advantages of Curetting in Febrile Abortion. (La question du curettage dans les avortements fébriles.) R. de Bovis.
73 Cesarean Section on Infected Uterus. R. de Bovis.

Archiv für Kinderheilkunde, Stuttgart

LIX, Nos. 5-6, pp. 321-486. Last indexed February 8, p. 482

74 *Leishman Anemia in Southern Italy; Sixty-seven Cases. G. Caronia.
75 Foundations of Modern Pediatrics. (Zur Einführung in das Studium der Pädiatrie.) A. O. Karnitzki.
76 City Babies' Hygiene. A. Baginsky.
77 *Pathology of School Children. (Kinderkrankheiten während des Schullebens.) A. Baginsky.

74. **Leishman Anemia in Italy.**—The disease develops mostly in the early spring and only two of Caronia's sixty-seven patients recovered. The duration is generally from three to six months or a little longer; in exceptional cases the disease may drag along for years. After tuberculosis, diphtheria and the eruptive diseases, this leishmaniosis is the most prevalent disease in southern Italy. Families living in rural districts or having much to do with domestic animals are specially subject to it; in only one of the total sixty-seven was the family city-bred. Direct contagion could be incriminated in most of the cases, the virus probably being transmitted by means of bedbugs. But in a few instances there did not seem to be any possibility for direct contagion, and there is much to sustain the view that dogs and dog fleas are responsible for its transmission. Franchini has recently found the parasites in gnats.

77. **Pathology of School Children.**—Baginsky remarks that a number of pathologic conditions develop during school life which should be prevented or corrected. The group of symptoms which we call overwork or overfatigue should not be ascribed to congenital or acquired neurasthenia or a psychopathy. Myopia developing during school life is not in a malignant form and it can generally be corrected by reducing the number of hours devoted to near work. Curvature of the spine developing during school age is exclusively the consequence of too long sitting and especially too long writing. It is absurd, he adds, to bring into causal relation with school life a number of diseases which occur at the school period. He anticipates the dawn of a better day in regard to tuberculosis when medical school inspectors are on the alert to detect it, but adds that education of the public down to its lowest strata is the only rational means to protect against the spread of tuberculosis.

Berliner klinische Wochenschrift

February 24, L, No. 8, pp. 333-380

78 *Opening up the Fourth Ventricle and Resection of Vermiform Process for Tumor. (Partielle Entfernung des Wurms wegen Geschwulstbildung unter breiter Eröffnung des vierten Ventrikels.) H. Oppenheim and F. Krause.
79 Topography of the Cerebellum. (Zur Kleinhirnlokalisation.) M. Rothmann.
80 The Pancreas, Liver and Carbohydrate Metabolism. J. Wohlgemuth.
81 Anesthetic Action of Cinchona Alkaloids on the Cornea. (Hornhautanästhesie durch Chinaalkaloide.) J. Morgenroth and S. Ginsberg.
82 Thorium X in Treatment of Anemia, Leukemia and Rheumatism. A. Bickel.
83 *Non-Operative Treatment of Cancer. (Zur Frage von der operationslosen Behandlung des Carcinoms.) A. Theilhaber.

78. **Operation on the Vermiform Process.**—Oppenheim's patient was an unmarried woman of 30 who for eighteen months had had recurring attacks of headache and vomiting with occasional diplopia, vertigo, singultus and tinnitus, especially on the left. The progressive symptoms were soon accompanied by choked disk on both sides, slight exophthalmos, tenderness in the left side of the lower part of the back of the head and other signs of general pressure on the brain. There was no nystagmus but the reflexes in the left cornea were abolished when the patient lay on her right side and there was constant adiadochokinesis with varying pains in the left half of the face, deviation of the lower jaw to the left and slight paresis of the left palate. There was no modification under tentative mercurial treatment, and as the symptoms were increasing and the general health running down he advised trephining the left half of the cerebellum. A plexiform lymphangiosarcoma was found between the cerebellum and the vermiform process and its removal required opening up of the fourth ventricle. No special symptoms from this extensive operation developed and the patient had soon gained 25 pounds in weight; the fundus of the eye and vision are now normal and all the objective pathologic manifestations have disappeared. The patient still has occasional headache and morning vomiting but these seem to be of a hysteric nature. The lack of local symptoms, of nystagmus and of cerebellar incoordination from the tumor and the way in which this part of the brain tolerated the operation confer special interest on the case.

83. **Non-Operative Treatment of Cancer.**—Theilhaber declares that the efforts of Nature to throw off malignant disease are along the lines of hyperemia, hyperleukocytosis and abnormally intense proliferation of connective-tissue cells. All the nonsurgical measures which have proved useful in treatment of cancer have an action in one or more of these directions.

Correspondenz-Blatt für Schweizer Aerzte, Basel

February 22, XLIII, No. 8, pp. 225-256

84 Treatment of Third Stage of Labor. (Zur Behandlung der Nachgeburtsperiode.) K. Reber.
85 *Varicella in Adults. C. Staeubli.

85. **Chicken-Pox in Adults.**—Staeubli had two young men, brothers, in his charge on account of pleurisy and influenza. They both were confined to their room and in bed most of the time from December 22 to January 17, when one complained of headache and the other of cold feet as they were convalescing from their other troubles. Other symptoms developed suggesting small-pox. One of the young men then developed a typical varicella eruption, and the disease was also unmistakably varicella in the other patient but the diagnosis would certainly have been variola in this case if it had not been for the attending circumstances and the small numbers of leukocytes. With variola there is almost invariably high leukocytosis. The two young men had been shut in for so long that infection could have been only by indirect means, possibly by the intermediation of more than one person. Staeubli had had no varicella patients for some time before and during his care of these patients. The rapid recovery confirmed the diagnosis.

Deutsche medizinische Wochenschrift, Berlin

February 27, XXXIX, No. 9, pp. 393-440

86 Antimony in Spirochete and Trypanosome Disease. (Die chemotherapeutische Wirkung von organischen Antimonpräparaten bei Spirochäten- und Trypar[illegible]omenkrankheiten.) P. Uhlenhuth, P. M[illegible] d G. [illegible]

87 Pharmacologic Study of Opium; Its Elements and Its Substitutes. J. Pal.
88 *Thrombosis of Splenic Vein. (Milzvenenthrombose mit tödlicher Magenblutung.) C. A. Ewald.
89 Fistula Between Bronchus and Esophagus with Aortic Aneurysm. G. Dorner.
90 Action of Hormonal. (Experimentelle und klinische Beiträge zur Kenntnis der Hormonalwirkung.) P. Sackur.
91 **Influence of Iodid Medication on Phagocytosis of Tubercle Bacilli in the Sputum.* D. Rothschild.
92 *Sources of Error in Wassermann Reaction.* (Ueber "eigenlösende" Eigenschaften des Meerschweinchenserums und dadurch bedingte Fehlerquellen der Wa.R.) C. Stern.
93 Combined Treatment of Syphilis. G. Stümpke.
94 Salvarsan in Otiatry. J. Lang.
95 *Findings with the Duodenal Catheter in Infants. (Untersuchungen über Pylorospasmus und Pankreasfermente beim Säugling vermittels eines einfachen Duodenalkatheters.) A. F. Hess.
96 Development and Prevention of Hirschsprung's Disease. O. Meyer.
97 Relapsing Fever in Persia. (Das Rückfallfieber in Persien.) E. Dschunkowsky.

88. Fatal Gastric Hemorrhage with Thrombosis of the Splenic Vein.—Ewald's patient was a previously healthy man of 48. The only pathologic antecedent was a seventeen weeks' attack of articular rheumatism, twenty years before. He noticed that a tumor was developing in the left upper abdomen and after nine months he entered the clinic on this account, although the tumor caused no disturbance except slight oppression after relatively small meals. The hard tumor was evidently in the spleen but there was no trace of leukemia, anemia, ascites or jaundice. While an exploratory laparotomy was being considered, the man died from a sudden parenchymatous hemorrhage from the stomach; in less than half an hour 1,240 c.c. of fresh red blood poured out of the stomach and another hemorrhage followed in the night. There was no pain and the heart sounds were pure. Necropsy showed obliterating phlebitis of part of the portal vein and thrombosis, with chronic stasis and hyperplasia of the spleen. The case is unique in that the hemorrhage occurred so suddenly and without exciting cause, nothing being found in the stomach to suggest a varix.

91. Influence of Iodin on the Tubercle Bacilli in the Sputum.—Rothschild has made a practice for some years of giving a little potassium iodid in cases suspicious of tuberculosis in order to increase the amount of sputum. He regards this diagnostic measure as much less harmful than injection of tuberculin, while the tubercle bacilli swept into the sputum are more convincing than the best radiogram. At the same time he admits that to induce catarrh in a lung suspected of tuberculosis and thus more sensitive than a sound lung is not always entirely safe. He has long noticed that in the sputum obtained in this way an unusual number of the tubercle bacilli are incorporated in the leukocytes. It seems evident that the iodin medication promotes phagocytosis and that this phagocytosis in the sputum is an important guide to the prognosis of pulmonary tuberculosis. In the cases with toxemia, the bacilli are not found incorporated in the corpuscles. In advanced cases with secondary infection the bacilli in the corpuscles are in a more or less mutilated condition. Instructive information can thus be obtained by administration of iodin in this way, especially when ten specimens of sputum are examined and at least thirty fields are counted. In his study of cases in which before the administration of the iodin tubercle bacilli were found both inside and outside of the corpuscles, the number of phagocyted bacilli increased in 70 per cent.; in 20 per cent. by the end of two months all the bacilli were found thus incorporated. In the other group of cases in which no phagocyted bacilli could be found previous to the administration of the iodin, phagocytosis was evident later in two of the twelve cases. The effect of the iodin medication thus approximated that of tuberculin. In all the cases he was impressed with the increase in the number of lymphocytes after the iodin medication and that the cases with more pronounced phagocytosis seemed to run a more favorable course. The Italians have long lauded the action of iodin in tuberculosis; some have reported a favorable influence on the opsonins from it. Rothschild is well aware of the danger inherent in iodin medication in tuberculosis on account of the possible pathologic condition of the thyroid—the frequent combination of Basedow symptoms and pulmonary tuberculosis is more than a mere coincidence. But at the same time he declares that iodid medication, possibly in combination with tuberculin, must be credited with a highly specific influence in rendering harmless the tubercle bacilli in the infected organism when the iodid is given prudently, under constant supervision and control.

95. Duodenal Catheter for Infants.—Hess' work in this line is familiar to our readers. Compare with abstracts in The Journal, 1912, lviii, 892 and 1997.

Deutsche Zeitschrift für Chirurgie, Leipsic

February, CXXI, Nos. 1-2, pp. 1-196

98 Causes of Outward Bending of the Ankle and Flat-Foot. (Ursachen des Knick- und Plattfusses.) P. Ewald.
99 *Gastric Crises in Tabes. A. Cade and R. Leriche.
100 Extension by Bardenheuer's Technic versus Steinmann's Nail Technic for Fracture. O. Grune.
101 Internal Fistulas after Gastro-Enterostomy. (Jejunumcolon- und Magencolonfistel nach Gastroenterostomie.) E. Polya.
102 Bullet Passes Through Brain Without Apparent Injury. (Grosshirn-Schussverletzung durch ein 7-mm.-Geschoss ohne erhebliche Folgen.) C. Lauenstein.
103 Rupture of Bladder from Contusion; *Recovery after Suture.* (Quetschung des Leibes durch Fahrstuhl. Intraperitoneale Zerreissung der Blase. *Laparotomie, Naht der Blase.* Heilung.) C. Lauenstein.
104 *Restoration of Entire Cheek.* (*Zur totalen Meloplastik.*) G. Lerda.
105 *Operative Correction of Fractures Healed in Abnormal Position.* (Die blutige Stellung schlecht stehender Frakturen.) W. Keppler.
106 Restoration of Clavicle. (Kleidoplastik aus der Spina scapulae.) Molineus.

99. Gastric Crises.—Cade and Leriche describe the gastric crises in tabes from the clinical point of view and also discuss the pathogenesis and treatment. They say that gastric crises usually develop in the initial stage of the tabes but ten or twenty years have been known to elapse before other symptoms developed outside of the gastro-intestinal disturbances. As a rule, however, other symptoms soon accompany the crises. Lumbar puncture has relieved the patients in some cases but the writers have never obtained any benefit from it, and Mouriquand has recently reported a case of threatening syncope after withdrawal of 25 c.c. of fluid. In prophylaxis, hygiene of the diet, avoidance of alcohol and of medicinal injections are recommended, with cauterization with the actual cautery along the spine. In inveterate cases, operative treatment should be considered, and for this there are several methods. The history
of each is given in turn with the results to date: resection o
the posterior roots (Foerster); extraction of the intercos
nerves (Franke); stretching the solar plexus (Jaboulay).
bilateral vagotomy (Exner). The final conclusions are t
is necessary to distinguish between vagus and sympathe
tric crises. If the attack is extremely painful, wi
vomiting, tachycardia, dropping of pulse-beats and dist
in the larynx, the vagus is probably responsible. This
tested. But these cases are not so frequent as the sym
crises. In the latter case, begin with the simplest
measures, leaving the major procedures for the last res
simplest measure is König's method of injecting 100
0.5 per cent. solution of novocain into the muscles of
on each side of the line of the spinous processes. It
possible to use alcohol instead of an anesthetic and thu
a permanent effect, treating the tendency to gastric c
a facial neuralgia. If this fails, the Franke operation
tried, pulling out the fifth to seventh intercostal nerves,
Jaboulay method of stretching the solar plexus. (In the
reported by Cotte this relieved the patient for two years
then the crises returned. Leriche did not obtain any benefit
the one case in which he has applied the measure.) If all these fail or the crises recur, the Foerster operation must be considered and Guleke's epidural modification is recommended, and the severing of seven roots on each side if possible. At the same time, Cade and Leriche believe that with a good general condition and very severe crises involving also the intestines they would proceed at once without further delay to section of the posterior spinal roots in a given case.

Medizinische Klinik, Berlin

February 23, IX, No. 8, pp. 281-318 and Supplement

107 *Treatment of Weakness of the Bladder in Women. (Zur Behandlung der Blasenschwäche des Weibes.) H. Fehling.
108 Pathology of the Throat and its Importance for the Organism as a Whole. (Der Waldeyersche Rachenring und der Organismus.) O. Pifl.
109 *Non-Operative Treatment of Club-Foot. (Die unblutige Behandlung des Klumpfusses.) H. H. Dreesmann.
110 *Influence of Gelatin on Coagulation. (Zur Frage der gerinnungsfördernden *Wirkung der Gelatine.*) *E. Ruediger.*
111 Hands Off the Uterus in Third Stage of Labor. (Ueber die Ausräumung von Placentarresten.) K. Himmelheber.
112 Differentiation of Scarlet Fever by Urobilinogen in the Urine. (Ehrlichs Amidobenzaldehydreaktion im Harne bei Scharlach und scharlachähnlichen Exanthemen.) O. Hesse.
113 Prophylaxis of Diphtheria. F. Schanz.
114 Jaundice of the Newly Born. (Zur Kenntnis des Icterus neonatorum.) E. Maliwa.
115 *Tuberculosis and Pregnancy. O. Hoehne.
116 *Urogenital Tuberculosis in Women. O. Hoehne.
117 *Prophylaxis of Placenta Praevia. O. Hoehne.

107. Treatment of Weakness of the Bladder in Women.—Fehling does not mean by this complete paralysis of the bladder but only partial incontinence of the bladder sphincter, occurring during coughing, sneezing, laughing, etc. It is most common in women who have borne children, and he warns that it is necessary to guard against it after delivery. The parturients should be warned not to strain in urinating when there is difficulty in micturition, and they should not be allowed to sit up to urinate at first. In older women, astringent vaginal douches or pessaries may be useful, or application of electricity. Cathelin's epidural injections may prove useful, injecting from 10 to 40 c.c. of salt solution to act suddenly on the sacral nerve fibers. Fehling discusses further the various operative measures that might be applied. He slit the urethra its entire length and excised a strip in one case but without permanent success. Albarran's technic seems preferable; a fold is taken up in the urethra its entire length and sutured to reduce the lumen, but Fehling has been most pleased with the results of plication of the bladder itself. In five cases he supplemented this technic with a support made by drawing down the rear surface of the uterus to form a cushion on which the bladder rests. In three cases the operation was a complete success, but disturbances returned in two cases after two or three months in connection with some physical strain.

109. Non-Operative Treatment of Club-Foot.—Dreesmann gives an illustrated description of the metal sole and elastic harness fitting over the opposite shoulder with which he has corrected club-foot in young infants.

110. Gelatin to Promote Coagulation of the Blood.—Ruediger reports a case which confirms the efficiency of gelatin by the mouth in promoting the coagulability of the blood. The patient was a man of 55 who had had for years a very large aneurysm of the arch of the aorta. To apply the Wassermann test blood was drawn but it coagulated too soon for the test or even for determination of the hemoglobin content and blood-count. It coagulated in the capillary tube before it was half full and no tests could be applied to the blood on this account. This remarkable coagulating property was explained by the fact that a physician had ordered the man eighteen months before to eat gelatin freely, and since then he had taken daily from 36 to 40 gm. of gelatin in lemonade. He had thus ingested about 20 kilograms of gelatin in eighteen months. The case teaches that the internal administration of gelatin may be of prophylactic importance as a preliminary to operations and childbirths or in treatment of recurring hemorrhages. To obtain the desired result prolonged administration is necessary; it is of little use to give gelatin to arrest a sudden hemorrhage. In this case better results can be anticipated from von den Velden's intravenous injection of 3 or 5 c.c. of a 10 per cent. sterile salt solution. This acts promptly and well but no fluid must be left near the vein as otherwise gangrene may follow. The salt solution may be supplemented by subcutaneous and oral administration of gelatin.

115-117. Some Gynecologic Problems.—Hoehne discusses a number of the most pressing problems in the sphere of obstetrics and gynecology. He concludes his study of tuberculosis in connection with pregnancy by saying that an extreme standpoint is unwise, either on the radical or conservative side. The internist and obstetrician must work together to determine indications in each individual case. When active progressive pulmonary tuberculosis and especially laryngeal tuberculosis suggest the necessity for interrupting the pregnancy, the woman should be rendered sterile thereafter and should be given a course of treatment *in a sanatorium as a necessary* adjuvant. He says of tuberculosis of the urogenital apparatus in women that an early diagnosis is the main thing. Stoeckel goes so far as to say that a failure to diagnose tuberculosis of the urinary system until bilateral renal tuberculosis has developed is as bad as for a general practitioner to let a cancer of the uterus go on to an inoperable stage. The diagnosis may require mastery of cystoscopy, catheterization of the ureters and inoculation of guinea-pigs by the latest improved bacteriologic methods. Gauss thinks that *no one should omit* the indigo-carmin test and roentgenoscopy. *Total obliteration* of the ureter is regarded as of inevitably tuberculous origin and hence a reliable sign of tuberculosis of the kidney.

In discussing abnormal implantation of the placenta, Hoehne calls attention to the peculiarly intense ciliary movements which he has found an invariable accompaniment of chronic hyperplastic conditions in the mucosa of the uterus. It is possible that this pathologic extent and intensity of the waves of contraction in the cilia have some causal connection with abnormal implantation of the ovum in the lower parts of the uterus. He found this most marked in four of five placenta praevia cases. His practical conclusion is that the uterus should be curetted after involution in every placenta praevia case. In this way it might be possible to put an end to the abnormally exaggerated movements of the ciliated cells of the epithelium.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXV, No. 5, pp. 797-968. Last indexed February 15, p. 561

118 *Pneumococcus Sepsis from Gall-Stones. (Ueber Pneumokokkensepsis und Pneumokokkenmeningitis im Anschluss an kalkulöse purulente Cholecystitis und abszedierende Cholangitis.) J. Severin.
119 *Goiter. (Kritische und experimentelle Untersuchungen über die kropfigen Erkrankungen der Schilddrüse.) B. Breitner.
120 *Serodiagnosis of Cancer. (Zur Serumdiagnose maligner Tumoren.—Kellingsche hämolytische Proben, Ascolische Meiostagminreaktion und Wassermannsche Reaktion.) A. Brüggemann.
121 *Further Research on Hormonal. R. Mohr and R. Dittler.
122 The Importance of the Bronchi from the Mechanical Standpoint. M. Jansen.
123 Excessive Irritability of the Nerves in Tetany. W. G. MacCallum (New York).

118. Pneumococcus Sepsis Following Gall-Stone Trouble.—Severin gives the details of two cases of pneumococcus sepsis and meningitis in women of 53 and 54 who had long suffered from attacks of gall-stone colic. Fever and jaundice developed first but there was nothing pathologic to be detected in the ears, throat or lungs; the liver was much enlarged and tender and the spleen enlarged. The fever was intermittent and sometimes preceded by chills. Jaundice and leukocytosis of 30,000 were accompanied by pneumococci in the blood. Necropsy confirmed the diagnosis of suppurative cholecystitis and cholangitis with abscesses in the liver, in the course of which the pneumococcus sepsis had developed with the fatal meningitis after a few days. Pneumococci were found in the gall-bladder pus in one case with staphylococci and streptococci. It is remarkable that the pneumococcus was the only one of the trio to make its way into the blood and induce the general sepsis. In the total seven cases of pneumococcus infection he has been able to compile from the literature, secondary pneumococcus meningitis developed in four instances. The discovery of pneumococci in the blood with cholelithiasis is therefore a bad omen in comparison to pneumococcus bacteremia in pneumonia.

119. Goiter.—Breitner is convinced that colloid in the goitrous thyroid gland is a sign or cause of insufficient functioning of the gland while excessive functioning occurs only in the absence of colloid. His research on the interrelations between the internal secretions confirms the great importance of the serologic side of the problems connected with the thyroid, as

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March 1, XXXIV, No. 9, pp. 209-240

155 *Frequency of Septicemia in Infectious Diseases. (Septikämie als häufiger Gast in der Familie der übrigen Infektionskrankheiten.) N. T. Golubow.

155. **Septicemia.**—Golubow states that he has encountered twenty cases of sepsis in the last ten years with a fatal termination in seven. He believes that septicemia is more frequent than is generally recognized and that it often escapes recognition. He urges general practitioners to make a special study of the mild cases of non-surgical sepsis, believing that this would throw light on many obscure morbid conditions. It is possible that Hodgkin's disease and other purpura affections, muscular rheumatism, etc., are often connected with some septic process. In seven of his twenty cases an infectious sore throat was evidently the cause of the sepsis. Differentiation is based on bacteriologic and other tests and exclusion of other possible causes. He was able to trace the sepsis to the primary process in all but two of his twenty cases. Influenza, malaria or typhoid had generally been diagnosed. One patient, a woman of 50, had had febrile temperature recurring several times during the day for a period of six weeks. Examination showed nothing suggesting influenza, malaria or a local infectious process, but Golubow insisted that there must be some septic infection somewhere in the body. The patient was kept under observation and after two or three days an extremely severe streptococcus sore throat developed, with signs of progressive sepsis and a hemorrhagic vesicular exanthem and the patient soon died. This case confirms the possibility of a protracted intermittent streptococcus infection. In another case a man of 55 developed the clinical picture of pernicious anemia which proved fatal eight months after the first symptoms which had been those of sepsis from mixed infection of the upper air passages; pneumococci and streptococci and influenza bacilli were found constantly in the sputum and the catarrhal affection became later accompanied by mild nephritis. Golubow is convinced that in many cases pernicious anemia is the consequence of some mild cryptogenetic chronic sepsis. He insists that there is reason to assume that the still unknown hemolytic toxin causing pernicious anemia is of bacterial origin.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 20, XXXIV, No. 22, pp. 225-232

156 Infiltration Anesthesia. (Studio dell'anestesia locale da infiltrazione.) P. Pozzato.

February 25, No. 24, pp. 249-256

157 *Experiences with Spinal Anesthesia. (Considerazioni sopra 924 casi di rachistovainizzazione.) P. Bedeschi.

157. **Spinal Anesthesia.**—Bedeschi has used stovain for spinal anesthesia in 924 cases and reports two cases of serious collapse. One of these patients was a youth who had been operated on for fistula of the anus; the other was a woman of 45 requiring fixation of the uterus. Under an hour or more of artificial respiration, saline infusion and rubbing the heart region with ice the patients were revived but the boy had an intermittent pulse and bradycardia for eight days afterward. There was postoperative retention of urine in 10 per cent. of the cases and anal incontinence in 30 per cent. of all the patients, stools passing sometimes while still on the table, in other cases as the patients were being replaced in bed or their position was otherwise changed. There was severe paralysis in two cases, the paralysis affecting the legs, the anus and bladder sphincter. The paralysis of the sphincters subsided after ten days in one case and thirty-five in the other. In the latter case there was cystitis and severe decubitus burrowing down to the sacral vertebrae. Four months after the spinal anesthesia these patients were able to stand and walk but complained of great weakness in the legs and sensory disturbances were still evident. Bedeschi states in conclusion that the by-effects observed have discouraged the further use of stovain in the clinic at Ravenna where he is assistant surgeon. It has been discontinued except possibly for operations requiring only a very small amount of an anesthetic.

Policlinico, Rome

February 23, XX, No. 8, pp. 261-296

158 Injury of the Heart from Sudden Physical Effort. F. Santor

February, Surgical Section No. 2, pp. 49-96

159 Resection of Three-Fourths of Jaw and Mode of Repair. (Resezione di tre quarti della mandibola per via orale e nuovo metodo di prostesi mandibolare definitiva.) R. Alessandri and A. Chiavaro.

160 Hernia of the Bladder. (Contributo allo studio dell'ernia della vescica.) F. Putzu.

161 *Primary Sarcomas of Muscles. (Sarcoma muscolare primitivo e miomectomia.) M. Fasano.

161. **Primary Sarcomas in Muscles.**—Fasano reviews the history of primary sarcoma in muscle tissue and adds a case from his own practice to the few on record. Excision far into sound tissue has given a number of long survivals, amounting practically to a cure although, he remarks, it is almost impossible to expect a permanent and absolute cure from malignant disease of this nature. His patient was a boy of 10 and the tumor was in the thigh. The boy was recently reexamined after an interval of two years and found in the best of health. He had noticed the small tumor first six or seven months before the operation and during the last two months it had grown somewhat and become slightly painful at intervals.

Semana Medica, Buenos Aires

January 30, XX, No. 5, pp. 253-304

162 Biology of the Soul. (Biologia del alma.) J. Ingegnieros.
163 Prophylaxis of Tuberculosis. (El concepto actual de las tuberculosis.) J. M. Quevedo.
164 Organic Basis of the Mind. (La estructura fisica de la intelligencia y el desarrollo de su mecanismo organico.) H. Maudsley (London).
165 Linear Electrolysis for Urethral Stricture. (El valor de la electrolisis linear en el tratamiento de las estrecheces de la uretra.) A. De Garay.
166 *Sudden Death. (La muerte repentina y su profilaxis.) R. de Castro Ruiz.
167 Treatment of Digestive Disturbances. G. Granes.
168 Adulteration of Liquors. (Contribucion a la investigacion del alcohol metilico impuro en los liquidos espirituosos.) J. G. Obregon.
169 *Effects of Salvarsan on the Internal Ear. (Sobre los efectos del Salvarsan en el oido interno.) E. Botella.

166. **Prophylaxis of Sudden Death.**—Ruiz agrees with Seneca that "men do not die; they kill themselves," and he argues that it is possible so to live that the principal causes of sudden death, namely, shock, cerebral hemorrhage, syncope, coma and collapse can be warded off. The secret, he declares, is "lots of philosophy and lots of hygiene," in other words, one must know how to live and how to die. Bacchus, Venus and sluggish vital processes are responsible for sudden death in a large proportion of cases, and all of these are to a certain extent under our control.

169. **Salvarsan and the Ear.**—Botella compares five case
from his own experience with eight in the literature in wh
the use of salvarsan was followed by disturbances i
internal ear. He also summarizes eighty-one cases in
he examined the ears before and after salvarsan treatme
is evident, he thinks, that the ear symptoms observed
the use of salvarsan are due to different causes in v
groups of patients. In some they are evidently a Herxh
reaction; in others aggravation of a preexisting lesio
others there is nothing to explain them but the assumpti
a direct toxic action from the salvarsan. It is evide
states, that the drug should be given prudently and th
should seek to disabuse patients of the idea that a singl
is going to cure syphilis at one stroke. Specialist exami
of the ear should never be omitted before giving salv
and all patients with a recent lesion of the auditory ne
any point should be systematically excluded from this m
of treatment. In the eighty-one candidates he examin
forty-three the ears seemed to be entirely sound and yet
of these developed trouble in the apparatus of hearing af
the salvarsan; in five the syphilis was of recent date. In fou
instances the disturbances were quite serious. Twenty-four
other patients had a history of old trouble in the ear previous
to their syphilis, but no influence from the drug was apparent
either way in this group. A third group of twelve patients had
developed ear disturbances after infection with syphilis, before
the salvarsan had been given. His record is thus a total of
nineteen cases of disturbances in the ear after injection of salvarsan. In only four were the disturbances briefly transient; in
the others they were more or less serious